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ABSTRACT

An inquiry concerning the future of Murdoch University, Western Australia, is considered, as are the resulting recommendations. After a description of the university's establishment, growth, and present circumstances, postsecondary education in Western Australia and the demand for higher education are considered. A number of adjustments to the pattern of activities in higher education in Western Australia are recommended that are designed to encourage the growth of Murdoch University to about the year 2000. Proposals for new departments at Murdoch University in the areas of medicine, law, commerce, optometry, peace and conflict studies, philosophy, and student accommodation are examined as are low cost proposals concerning the following issues: limitations on enrollments at other institutions, postgraduate student load, the rationalization of activities, cooperative teaching arrangements, the establishment of institutes for teaching and research, the joint use of facilities, and publicity for Murdoch University's activities. Extracts from submission received from higher education institutions regarding the present inquiry and background reports are appended.

(SW)

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THE FUTURE OF MURDOCH UNIVERSITY

*Report of the Committee of Inquiry into the Future of
Murdoch University*

Perth, Western Australia

November, 1979

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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Government
of Western Australia

COMMITTEE OF INQUIRY

INTO THE FUTURE OF MURDOCH UNIVERSITY

16-18 STIRLING HIGHWAY, NEDLANDS

P.O. Box 135, NEDLANDS, W.A. 6009.

TELEPHONE (09) 386 6355

19 November 1979

The Hon. P.V. Jones, MLA
Minister for Education
Parliament Place
WEST PERTH WA 6005.

Dear Minister,

We have pleasure in submitting to you the *Report of the Committee of Inquiry into the Future of Murdoch University*.

In brief, and consistent with its terms of reference, the Committee recommends a number of adjustments to the pattern of activities in higher education in the State, which it believes will encourage the growth of Murdoch University to about the year 2000. While it was aware that more radical options were available for consideration, it has refrained from examining them because they lie outside its terms of reference.

The first chapter of the report provides a relatively brief statement of the Committee's general analysis of the University's establishment, growth and present circumstances, and of the Committee's recommendations. Chapters 5 and 6 present a more detailed discussion of Murdoch's prospects for growth and of the considerations which led to the framing of the recommendations. Chapters 2 and 3 provide a detailed comparative analysis of the growth of Murdoch and the other institutions of higher education in Western Australia, while Chapter 4 discusses likely trends in the demand for higher education in Western Australia.

We would like to record our gratitude to all those who made available to the Committee their comments about various aspects of our inquiry, whether as written submissions or at interview. In particular, the Vice-Chancellor and staff of Murdoch University

The Hon. P. V. Jones, MLA

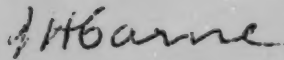
19 November 1979

have given us every assistance in obtaining the information that we required for our discussions; and we were also pleased to have opportunities for free and useful discussion with staff and student groups from Murdoch and representatives of The University of Western Australia, The Western Australian Institute of Technology, the Colleges and the Western Australian Post Secondary Education Commission. We also record our gratitude to Mr Warren Snell, who served the Committee most ably as its Executive Officer; and to the secretarial staff of the Commission.

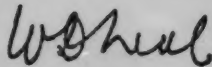
Yours sincerely,



L. Michael Birt
Chairman



I. H. Carne



W. D. Neal

COMMITTEE OF INQUIRY INTO THE FUTURE OF MURDOCH UNIVERSITY.

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- EXECUTIVE OFFICER: Mr W. Snell, M.Ec.(W.Aust.), Assistant Secretary
(Research and Planning), Western Australian Post
Secondary Education Commission.

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NOTES ON STATISTICS

General

1. The Committee has experienced some difficulty in constructing a statistical framework within which it could analyse the higher education system in Western Australia. Statistical collections in the university and advanced education sectors are based on somewhat different sets of definitions and, in addition, there is often sufficient latitude within the definitions to allow for different judgements to be made. The Committee is of the view that there is an urgent need to develop more standardised statistical systems which will enable meaningful comparisons to be made between institutions in the university and advanced education sectors.

Definitions

2. The Committee has adopted the following set of definitions relating to student statistics -
 - (a) A "unit" is a single element in a "course" or "programme" (e.g. Field and Environmental Biology is one of the "units" that must be taken in the first year of the Bachelor's degree programme in Environmental Science at Murdoch University.
 - (b) A "programme" or "course" of study is the sum of the units required for the award of a degree or diploma.
 - (c) A "field of study" is a broad disciplinary area (e.g. Architecture, Biological Sciences, Humanities and Social Sciences). It may consist of a number of separate "disciplines" (e.g. Humanities and Social Sciences consists of Anthropology, English, History, etc.).
3. The "participation rate" is defined as the ratio (expressed as a percentage) of enrolments to the number of persons in the population aged 17 to 29 years.

Abbreviations and Symbols

4. The following abbreviations and symbols are used in the tables and figures in this report -

Murdoch	Murdoch University
UWA	The University of Western Australia
WAIT	The Western Australian Institute of Technology

EFTS	Equivalent Full Time Students
FTES	Full Time Equivalent Students
WSU's	Weighted Student Units
F.T.	Full time
P.T.	Part time
Ext.	External
M	Male
F	Female
n.a.	Not available
..	Not applicable
-	Nil

Source of Data

5. Unless otherwise stated, statistics and figures on student and staff numbers are derived from regular statistics collections undertaken by the Tertiary Education Commission or its predecessors, from statistical publications produced by the institutions or from special collections undertaken by the Committee.

Reference Date

6. Unless otherwise stated, the reference date for all tables and figures is 30 April of the year concerned.

Rounding

7. Discrepancies between totals and the sums of components in tables are due to rounding.

Fields of Study

8. The Committee has developed field of study classifications which suit its purposes reasonably well. It recognises, however, that some of the activities conducted at some institutions do not fit clearly within some of the defined categories and that some of the decisions it has made regarding classifications are somewhat arbitrary. It also recognises that some of the categories are not mutually exclusive. For example, the Committee's field of study "Agriculture and Veterinary Science" includes courses offered by the Faculty of Agriculture at The University of Western Australia. The Committee is aware, however, that Departments within the Faculty of Agriculture offer units which might have been classified under "Economics and Commerce" or "Science". Similarly, a number of Departments within The

University of Western Australia offer courses in more than one Faculty and while the student load generated by the Departments concerned is attributed to one field of study, the number of equivalent full time students enrolled for major courses offered by these Departments is generally spread across a number of fields of study.

9. The field of study classifications that have been developed by the Committee are as follows -

<u>Field of Study</u>	<u>Components</u>
Agriculture and Veterinary Science	Murdoch - School of Veterinary Studies UWA - Faculty of Agriculture WAIT - Muresk Agricultural College
Architecture	UWA - Faculty of Architecture WAIT - Department of Architecture and Planning
Art and Design	WAIT - Department of Art and Design
Economics and Commerce	Murdoch - Economics Programme (part of the School of Social Inquiry) UWA - Faculty of Economics and Commerce (excluding the Japanese Studies Unit) WAIT - School of Business and Administration and Business Studies courses offered by the School of Mining and Mineral Technology Colleges - Churchlands School of Business Studies
Education	Murdoch - School of Education UWA - Department of Education WAIT - School of Teacher Education Colleges - Churchlands, Claremont, Graylands, Mount Lawley and Nedlands Schools of Teacher Education
Engineering	UWA - Faculty of Engineering WAIT - School of Engineering and Surveying and Departments of Metallurgy and Mining and Engineering
Health Sciences	UWA - Faculties of Dentistry and Medicine WAIT - School of Health Sciences Colleges - Claremont Health Education Programme

<u>Field of Study</u>	<u>Components</u>
Humanities and Social Sciences	Murdoch - School of Human Communication and School of Social Inquiry (excluding Economics Programme) UWA - Faculty of Arts, Department of Social Work and Japanese Studies Unit WAIT - School of Social Sciences and Department of English Colleges - Nedlands Library Media Programme
Law	UWA - Faculty of Law
Physical Education and Recreation	UWA - Department of Human Movement and Recreation Studies Colleges - Nedlands Recreation Programme
Science - Biological Sciences	Murdoch - School of Environmental and Life Sciences UWA - Departments of Botany and Zoology WAIT - Department of Biology
Mathematics & Physical Sciences	Murdoch - School of Mathematical and Physical Sciences UWA - Departments of Computer Science, Geology, Mathematics, Organic Chemistry, Physical and Inorganic Chemistry and Physics. WAIT - Departments of Chemistry, Geology, Mathematics and Computing Studies and Physics

10. Murdoch University does not, at present, offer major programmes in Architecture, Art and Design, Engineering, Health Sciences, Law or Physical Education. Accordingly, in much of the analysis that follows these activities which are conducted at the various other institutions are grouped together into the category "other".
11. At present, students who are enrolled at Murdoch University to complete University of Western Australia degree courses may enrol for a limited number of units that are still offered externally by The University of Western Australia but through the Murdoch External Studies Unit. Enrolments in this category are shown against the classification UWA Units.

Student Numbers and Student Load

12. In most higher education institutions individual students may, if they wish, undertake varying proportions of the normal course requirement for a full time student. In these circumstances it is difficult to compare trends in enrolments both within and between institutions simply by examining total numbers of students. Accordingly, it is necessary to express numbers of students in terms of a "standard unit" against which other variables associated with the activities of an institution, a part of an institution, or a group of institutions can be measured. In Australia, the "standard unit" has become known as the student load and a number of approaches to its calculation have been adopted.
13. The simplest method of calculating student load is the equivalent full time student (EFTS) approach which involves the use of arbitrary weights for full time, part time and external students. The number of equivalent full time students is generally calculated by summing the number of full time students and half the number of part time and external students.
14. A more sophisticated approach to the calculation of student load has been developed in the university sector. This approach, which is based on the number of weighted student units (WSU's) generated by the enrolments in each subject in each department, is calculated as follows -
 - (a) *Higher Degree Student Load* - A student enrolled for a higher degree course with a minimum qualification of a four year degree or its equivalent is given the following weights -

Full time	2
Part time	1
External	0.25

A student enrolled for a master's course work degree with less than the minimum qualification of a four year degree or its equivalent is given the same weighting as is applicable to a higher degree preliminary student (see *Other than Higher Degree Student Load*) for the first full time year of his course.

- (b) *Other than Higher Degree Student Load* - each unit offered by a department is weighted in terms of the proportion (of one) that the unit represents of a year's work for a full time undergraduate student. These weights are then applied to the number of students enrolled in each unit to determine the number of weighted student units. Where a unit represents different proportions of a full time undergraduate load depending on the course in which it is taken, the weight is usually determined on the basis of the usual distribution of enrolments in that unit between the various courses. In the case of a student enrolled for an honours course or a higher degree preliminary course the following weights apply -

Full time	1
Part time	0.5
External	0.5

- (c) *Total Student Load* - The sum of the *Higher Degree Student Load* and the *Other than Higher Degree Student Load* is the *Total Student Load* for a department.

15. Another sophisticated approach to the calculation of student load has been developed by the large multi-purpose colleges of advanced education in Australia and has become known as the full time equivalent student (FTES) or student hour approach. The number of full time equivalent students for a department is calculated by summing for all subjects taught by the department the products of each subject enrolment, times the subject duration in class hours per week per semester. The resulting student hour value is then divided by the arithmetic mean number of class hours prescribed per week per semester for courses administered by the department.
16. All of the three measures of student load mentioned above are used to some extent by one or more of the higher education institutions in Western Australia. The Colleges produce student load statistics in terms of EFTS while the two universities produce details of student load by department in terms of WSU's and The Western Australian Institute of Technology produces statistics in terms both of EFTS and FTES. In the analysis that follows in this report, the term student load is used in a broad sense to refer to EFTS in the case of the Colleges, WSU's in the case of the universities and FTES in the case of The Western Australian Institute of Technology.

Comparison of Student Load Measures

17. The EFTS approach to the calculation of student load probably overstates the student load for most institutions as, by and large, part time and external students take less than one half of a normal full time course in a given year. In addition, the EFTS measure attributes student load to courses rather than to teaching departments or schools and, as individual students may enrol for sections of their year's work in a number of departments or schools, it does not give a clear indication of the student load carried by the individual teaching components of an institution.
18. The WSU and FTES approaches probably give a more precise indication of total student load than the EFTS approach. However, the WSU and FTES approaches are based on quite different concepts and would probably give quite different estimates of student load for an individual department. Unlike the EFTS approach, the WSU and FTES approaches attribute student load to teaching departments rather than to courses.
19. In view of these differences, the Committee has been hesitant in making comparisons in terms of unlike measures of student load, although in some cases comparisons have had to be made as no other data has been available.
20. The EFTS statistic is the one measure of student load that can be derived from data that is readily available for all institutions and, accordingly, the Committee has arranged for estimates of EFTS to be prepared to give it a basis for making comparisons between institutions. It is very conscious of the limitations of the EFTS approach but believes that it is essential to be able to make comparisons between all of the higher education institutions in Western Australia. Where data in this report are presented in terms of EFTS for Murdoch University, The University of Western Australia, and The Western Australian Institute of Technology they are identified as EFTS data rather than student load data in order to avoid being confused with the other measures of student load that are more traditionally associated with these institutions.
21. It should be noted that full time higher degree students are ascribed a weight of 1 in terms of the EFTS approach followed in this report and a weight of 2 in terms of the WSU approach. This difference in approach explains why the higher degree WSU figures for a particular field of study

EFTS figures. In contrast, the other than higher degree EFTS figures for a particular institution will generally exceed the equivalent other than higher degree WSU figures as the EFTS approach tends to over-estimate the load, in terms of standard units, imposed on an institution by part time and external students. Finally, it should be pointed out that substantial differences between other than higher degree EFTS and WSU figures for a particular field of study or discipline can be expected as the EFTS statistic is course based, whereas the WSU statistic attributes student load to teaching departments or schools.

CHAPTER 1

INTRODUCTION, SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Murdoch University

- 1.1 Murdoch University was established under the provisions of the *Murdoch University Act, 1973* and admitted its first undergraduate students in 1975. It is located on a 232 hectare campus approximately 15 kilometres south-west of Perth (See Figure 2.1). Its general operating grant for 1979 (at December 1978 cost levels) is about \$12 million and it employs more than 500 academic and general staff and caters for some 2300 students. The University's physical plant now comprises ten major buildings which cover more than 50 000 square metres. The capital value of buildings at cost is in excess of \$23 million while the capital value of equipment at cost is almost \$3.5 million. The University has developed a substantial library which contains some 87 000 monographs, 31 000 serials and 19 000 non-book materials, and it has made substantial purchases of computing and audio-visual equipment.

Background to the Report

- 1.2 The Report of the Committee of Inquiry into Education and Training (hereinafter referred to as the Williams Report), which was released in March 1979, commented on Murdoch University in the following terms -

The number of FTE students at Murdoch University was 1 473 in 1977. The economic size of Murdoch, given the present formula for financial grants to universities providing studies in Arts, Science, Education and Veterinary Science, is approximately 4 500 FTE students. If all the projected additional university students in Western Australia enrolled at Murdoch University the increase would be little above 450 by 1986 for the first projection ... and 1 100 for the second projection... The subsequent growth would be insignificant for the first projection, and another 500 by 1991 under the second projection unless there were a significant increase in the education age groups or participation rates in Western Australia. The number of Murdoch students in science subjects other than biology is very low and there seems little prospect of it becoming a balanced university in the next ten to 20 years. The University of Western Australia is short of land for its Faculty of Agriculture and it is therefore sensible to ask whether the education philosophies and staff of the two universities are sufficiently compatible to make possible an effective association of the two universities. If so, agriculture and horticulture could be developed on the Murdoch site where there are already good facilities for veterinary studies...

The prospect that Murdoch University could be raised to an effective and economical size by the revision of the third precept (regarding economic size) is not good. The Partridge Committee judged that the Western Australian Institute of Technology had developed too far in the non-technological areas and recommended that its growth in these areas should be controlled so that future developments would be shared by Murdoch University and the teachers colleges. Even with the second projection of student numbers, growth to an economic size now seems unlikely, and the most promising line of development seems to be the integration of the activities of the two universities in Western Australia...

- 1.3 The Williams Report went on to recommend, inter alia, that the Commonwealth Tertiary Education Commission discuss with The University of Western Australia and Murdoch University and the Western Australian Post Secondary Education Commission an integration of the activities of the two universities.²

- 1.4 On 20 April 1979 the Premier of Western Australia, the Hon. Sir Charles Court, announced the State Government's intention to establish a Committee of Inquiry into the future of Murdoch University with terms of reference as follows -

Having regard to the Government of Western Australia's commitment to the retention of the Murdoch University as a separate institution, to make recommendations as to its future development, with particular reference to -

1. the suggestion contained in the Report of the Williams Committee that the range of subjects in small Universities be reduced and the role of such Universities be re-examined;
2. teaching activities, such as teacher training, which are duplicated at The University of Western Australia, Murdoch University and The Western Australian Institute of Technology, and where Murdoch University could be strengthened by rationalisation and transfer of activities;

1. *Education, Training and Employment*, Report of the Committee of Inquiry into Education and Training, Professor B.R. Williams, Chairman, Canberra: A.G.P.S., 1979, Vol. 1, pp.186, 205.

2. *Education, Training and Employment*, Vol. 1, p.205.

3. possible areas of cooperative teaching between institutions to assist the development of the programmes of Murdoch University;
4. the possibility of transfer of other selected activities from other institutions to Murdoch University.

The membership of the Committee was announced on 2 May 1979 and the Committee was asked to report to the Government as soon as possible.

Procedures

- 1.5 The Committee met formally on a number of occasions during the period May to November 1979. In addition, visits were made to Murdoch University and The Western Australian Institute of Technology and interviews were held with representatives of Murdoch University, Murdoch University staff and student associations, The University of Western Australia, The Western Australian Institute of Technology, Churchlands, Mount Lawley and Nedlands Colleges and Claremont and Graylands Teachers Colleges (these five colleges are hereinafter referred to as the Colleges), and the Western Australian Post Secondary Education Commission.
- 1.6 The Committee received and considered some 80 written submissions and the names of organisations and individuals who made submissions are listed in Appendix A. The submissions contain much valuable background information which was of great assistance to the Committee. While it is not possible in a report of this nature to comment on all of the submissions, the Committee is of the view that some of the issues raised in the submissions from the various post secondary education institutions should be highlighted. Accordingly, selected extracts from the submissions received from Murdoch University, The University of Western Australia, The Western Australian Institute of Technology and the Colleges are reproduced in Appendix B.
- 1.7 The Committee has been very conscious of the anxiety at Murdoch University about the delay in producing its report. Concern has been expressed about the effects of continuing uncertainty on staff and student morale, the level of applications for places in 1980, and future funding. The Committee has attempted to balance the desire to report as quickly as possible with

the need to become adequately informed about the University's present circumstances and prospects. These considerations have influenced the arrangements the Committee has made for interviews, visits and discussions.

Higher Education in Western Australia

- 1.8 The higher education system in Western Australia consists of two universities (Murdoch University and The University of Western Australia) and six colleges of advanced education (The Western Australian Institute of Technology, Claremont and Graylands Teachers Colleges, and Churchlands, Mount Lawley and Nedlands Colleges). Enrolments in courses at these institutions have grown rapidly over the last few years as shown by Table 1.1 which details equivalent full time other than higher degree and higher degree students for the years 1970, 1975 and 1979.

TABLE 1.1
EQUIVALENT FULL TIME STUDENTS^(a) BY LEVEL OF COURSE^(b)
AND BY INSTITUTION, 1970, 1975 AND 1979

Institution	Equivalent Full Time Students					
	1970		1975		1979	
	Other than Higher Degree	Higher Degree	Other than Higher Degree	Higher Degree	Other than Higher Degree	Higher Degree
Murdoch	..	..	535	31	1 597	119
UWA	5 979	410	7 579	660	7 362	780
WAIT	3 432	..	6 920	36	8 102	76
Colleges	2 100 ^(c)	..	4 697	..	5 723	..
Total	11 511	410	19 731	727	22 784	975

Notes: (a) For definitions see Notes on Statistics.

(b) Other than higher degree includes associate diploma and diploma courses, pass and honours degree courses, postgraduate diploma and bachelors degree courses, Ph.D. and master's preliminary courses and, in the case of Universities, miscellaneous subject enrolments. Higher degree includes Ph.D. and master's degree courses.

(c) Estimate.

1.9 This relatively rapid increase in enrolments is explained in part by an increase in population and in part by an increase in the extent to which members of the community have participated in higher education. Table 1.2 which details university and advanced education participation rates for the years 1970, 1975, 1977 and 1979, indicates quite clearly that there has been a substantial increase in participation in higher education, and particularly in advanced education, in Western Australia over the last decade.

TABLE 1.2
UNIVERSITY AND ADVANCED EDUCATION PARTICIPATION RATES^(a),
WESTERN AUSTRALIA, 1970-79

	1970	1975	1977	1979
University	3.6	4.2	4.3	4.2
Advanced Education	3.5	6.0	6.5	6.7
Total	7.2	10.2	10.8	11.0

Note: (a) The participation rate is the ratio (expressed as a percentage) of enrolments to the number of persons in the population aged 17-29 years.

1.10 The pattern of participation in higher education in Western Australia differs in a number of respects from the pattern in the rest of Australia. In the first place, participation is significantly higher in Western Australia than in the rest of Australia. In 1977 for example, the total participation rate for Western Australia was 10.8 while for Australia as a whole it was 9.6. In addition, the balance between the two sectors is somewhat different in Western Australia. In 1977 the university participation rate was 5.1 for Australia and 4.3 for Western Australia, while the advanced education participation rate was 4.5 for Australia and 6.5 for Western Australia. In fact in 1977 Western Australia had the second highest total participation rate in Australia, the highest advanced education participation rate and the second lowest university participation rate.

- 1.11 The pattern of participation in higher education in Western Australia reflects the very rapid growth in enrolments that occurred at The Western Australian Institute of Technology and the Colleges over the last decade and particularly during the period 1970 to 1975. Over this latter period enrolments at both the Institute and the Colleges more than doubled. Developments at the Colleges have, in the main, been restricted largely to Teacher Education although Churchlands College introduced a Business Studies programme in 1976. The Western Australian Institute of Technology has developed activities in a wide range of fields of study and, indeed, the Partridge Committee on Post Secondary Education in Western Australia, which reported in 1976, expressed concern about the extent to which the Institute's continuing growth might make it difficult to launch Murdoch University effectively.³ Considerable growth in student numbers also occurred in the advanced education sector between 1975 and 1977 (enrolments increased by some 14 per cent or 1 636 equivalent full time students (EFTS)) but growth has been more limited since then (between 1977 and 1979 enrolments have increased by some 5 per cent or 612 EFTS). In addition, some of the growth in recent years has been in fields of study such as the Health Sciences which are not competitive with Murdoch University.
- 1.12 Another trend which is apparent in the advanced education sector over the last decade is a large shift from non-degree or diploma programmes to degree programmes. This seems to be a trend throughout Australia but it has been drawn to the Committee's attention that the Partridge Committee was of the view that the balance of teaching at The Western Australian Institute of Technology should not be allowed to shift heavily in favour of degree-level and postgraduate courses.⁴
- 1.13 The University of Western Australia grew substantially over the period 1970 to 1975 but at a much slower rate than The Western Australian Institute of Technology and the Colleges. Since then it has entered what has been referred to as a "no-growth" phase of its development and the number of equivalent full time students has, in fact, declined since 1975.

3. *Post Secondary Education in Western Australia*, Report of the Committee on Post Secondary Education appointed by the Minister for Education, Professor P.H. Partridge, Chairman, Perth: Government Printer, 1976, pp. 138, 139.

4. *Post Secondary Education in Western Australia*, p. 141.

1.14 The Jackson Committee on Tertiary Education in Western Australia remarked in 1967 that a second major university facility should be developed in Western Australia by 1975 at the latest in view of projections of university enrolments and the desirability of limiting numbers at the Crawley campus of The University of Western Australia. The Jackson Committee argued that, because of demographic projections for the State and economic considerations, the proposed new university facility in Western Australia should, in the first instance, be a university college under The University of Western Australia catering for first and second year students in Arts and Sciences.⁵

1.15 Extensive discussions regarding this matter took place within The University of Western Australia during the late sixties and finally the Senate of the University advised the Premier of its conclusions, namely that a new university which would be autonomous from the beginning should be planned. The Premier was also informed that The University of Western Australia Senate had been impressed by the significant new approach to planning and development which had emerged where a university had been autonomous from the beginning and that its recommendations were based very much on the University's concern that full opportunity should be taken for a fresh approach to the role of a university today and how this role should be performed.

1.16 This view was accepted by both the State and Commonwealth Governments and resulted, in the end, in the establishment of Murdoch University which admitted its first undergraduate students in 1975. Enrolments at Murdoch University grew rapidly over the period 1975 to 1978 but growth ceased in 1979 when, as was the case with a number of other Australian Universities, new and total undergraduate enrolments declined.

1.17 The other higher education institutions in Western Australia were established in their major fields of study before Murdoch University opened; and subsequently they have developed in accordance with Commonwealth and State policies which have been based on the reports and policies of various committees of inquiry and statutory authorities concerned with higher education. It needs to be acknowledged, however,

5. *Tertiary Education in Western Australia*, Report of the Committee appointed by the Premier of Western Australia, Sir Lawrence Jackson, Chairman, Perth: University of Western Australia Press, 1967, p.23.

that the major involvement of The University of Western Australia and The Western Australian Institute of Technology in Education, the Humanities and the Social and Natural Sciences, and of the Colleges in Education has, in a general sense, provided competition for Murdoch University.

The Role and Development of Murdoch University

1.18 The Murdoch University Planning Board and later the university itself accepted the suggestion of the Senate of The University of Western Australia that in planning for the new university full opportunity should be taken for a fresh approach to the role of a university today and how this role should be performed. This desire for a fresh approach is reflected in the following statement of educational objectives to which the University subscribes -

- (a) *to encourage students to develop a rational and informed awareness of the problems which confront the world today;*
- (b) *to provide a liberal and relevant education for a varied range of students (some of whom will be external students) drawn from a wide range of age groups and from many walks of life;*
- (c) *to enhance the employability of students by providing programmes of study that not only prepare them for traditional careers, but also open up new career opportunities in both the public and private sectors;*
- (d) *to create conditions which will encourage the student to keep on studying, questioning and thinking critically long after he has left university;*
- (e) *to locate important new fields of study and devise programmes to deal with them;*
- (f) *to ensure high standards of teaching and communication throughout the University;*
- (g) *to provide generalist as well as specialist programmes and to see that the pass student is given at least as much attention as the honours student;*
- (h) *to make an enduring effort to seek ways in which the University and the community may derive mutual benefit from the fostering of a close relationship between the two;*
- (i) *to open opportunities to benefit from a university experience to those who are, or who have been, disadvantaged by an inability to participate in a regular programme of university studies;*

- (j) *to foster scholarship and the advancement of knowledge and to provide opportunities for basic and applied research in fields of university and community interest;*
- (k) *to provide opportunities for study beyond the first degree including the provision of continuing education and refresher courses, and for training in research;*
- (l) *to respond flexibly to change at all levels.*

1.19 In the Committee's view, the main elements which give Murdoch University its special character are -

- (a) The division of the academic programme for undergraduates into Part I (first year) and Part II (second and later years). In Part I students are required to take a compulsory trunk course together with other units outside the field of their likely specialisation, together with additional elective units as well as units which are prerequisites for a particular programme. In Part II students specialise in a major programme area or areas.
- (b) The general support for inter-disciplinary approaches, which is encouraged by an academic structure based on Schools rather than Departments.
- (c) The large external studies programme which is available both to distant students and to those within easy reach of the University.
- (d) The presence of a considerable proportion of mature age students and of part time and external students.
- (e) Flexibility in admission and assessment procedures.

1.20 The University, in its submission to the Committee, emphasised that none of its special characteristics should be allowed to disguise the fact that a high proportion of its academic work is orthodox. It suggests that it is a matter of general "style" (together with a modest amount of innovation, and a difference from The University of Western Australia in approach and coverage) which entitles Murdoch to claim that it is offering a genuinely "alternative path" through higher education in Western Australia.

- 1.21 Murdoch University has consistently enrolled a higher than average proportion of mature age and of part time and external students. This rather unusual pattern of enrolments has resulted in the University having a relatively small full time student population on campus.
- 1.22 Murdoch University assumed responsibility in 1975 for all external university tuition in Western Australia. The University's approach to external studies enables all students, regardless of where they live, to choose internal study or external study or a mixture of the two modes of teaching. The University's approach also allows the same staff to teach both internal and external students.
- 1.23 Murdoch University is organised on the basis of Schools of Study which have both academic and administrative responsibilities. The various Schools of Study and undergraduate degree programmes are as follows -

<u>School</u>	<u>Programmes</u>
Education	Bachelor of Education Further Teacher Education Initial Teacher Education - Primary Initial Teacher Education - Secondary
Environmental and Life Sciences	Biology Environmental Science Population and World Resources
Human Communication	Chinese Studies Communication Studies Comparative Literature Southeast Asian Studies
Mathematical and Physical Sciences	Chemistry Mathematics Mineral Science, Energy and Resources Physics
Social Inquiry	Economics History Psychology Social and Political Theory
Veterinary Studies	Veterinary Studies
-	General Studies

1.24 The University has grown quite rapidly since it accepted its first undergraduate students in 1975. Details of equivalent full time other than higher degree students by School of Study for the period 1975 to 1979 are shown in Table 1.3. As the table shows, growth was sustained over the period 1975 to 1978. There was a downturn in enrolments in 1979, but most other Australian universities experienced similar setbacks.

TABLE 1.3
EQUIVALENT FULL TIME^(a) OTHER THAN HIGHER DEGREE
STUDENTS BY SCHOOL OF STUDY, MURDOCH UNIVERSITY, 1975-79

School of Study	Equivalent Full Time Students				
	1975	1976	1977	1978	1979
Education	95.5	251	340	368	308.5
Environmental & Life Sciences	78.5	167	247.5	282.5	285
Human Communication	91	182	170	177.5	179
Mathematical & Physical Sciences	14.5	39	60.5	81.5	89
Social Inquiry	114	221.5	335.5	363.5	369
Veterinary Studies	27	92	134.5	172	221
Other ^(b)	25.5	127.5	97.5	163	126.5
Total	446	1080	1385.5	1608	1578

Notes: (a) For definitions see Notes on Statistics.

(b) Includes General Studies, Programme Choice Deferred, Not for Degree Units and University of Western Australia Degrees.

1.25 Within the general growth in enrolments, the University's undergraduate programmes have met with varying degrees of success. The programmes offered in the Biological Science area (Biology, Environmental Science, Population and World Resources and Veterinary Studies) have been strongly attractive to students, and undergraduate enrolments in these programmes now constitute some 32 per cent of all undergraduate enrolments.

- 1.26 Other areas of relative strength at the undergraduate level are Education, the History, Psychology and Social and Political Theory programmes within the School of Social Inquiry, and the Comparative Literature programme within the School of Human Communication. Enrolments in Part II programmes in all of these disciplines have now reached reasonably substantial proportions and staffing levels, while still very small in some areas, appear to be adequate to cater for at least the basic requirements of the disciplines.
- 1.27 Undergraduate enrolments in the Chinese Studies, Southeast Asia Studies and Communication Studies programmes offered by the School of Human Communication, in the Chemistry, Mathematics, Mineral Science and Physics programmes offered by the School of Mathematical and Physical Sciences, and in the Economics programme offered by the School of Social Inquiry have remained at relatively low levels.
- 1.28 Murdoch University has developed considerable strength in postgraduate training and research. Table 1.4, which shows equivalent full time higher degree students by School of Study, describes the substantial growth in student numbers that has occurred over the period. The Committee understands that growth could have been greater, but for limits imposed by the Universities Council. In addition to offering research higher degrees the University has successfully mounted course-work Master's degree programmes in Applied Psychology, Education and Environmental Science.

TABLE 1.4
EQUIVALENT FULL TIME^(a) HIGHER DEGREE STUDENTS
BY SCHOOL OF STUDY, MURDOCH UNIVERSITY, 1975-79

School of Study	Equivalent Full Time Students				
	1975	1976	1977	1978	1979
Education	2.5	6	17	26.5	32.5
Environmental & Life Sciences	5.5	9	16	31.5	33.5
Human Communication	4.5	5.5	5.5	4	4
Mathematical & Physical Sciences	5.5	9	8.5	9.5	8
Social Inquiry	7	8	9	18.5	27
Veterinary Studies	6.5	6	11	14	13.5
Total	31.5	43.5	67	104	118.5

Note: (a) For definitions see Notes on Statistics.

- 1.29 The University's output of research publications is impressive and it has been remarkably successful in obtaining outside research funds. In 1978 for example it received over half a million dollars from bodies such as the Australia Research Grants Committee and from government and industry.
- 1.30 On the basis of postgraduate student numbers, outside research funds attracted, and staff publications, a number of areas of special research excellence can be identified. Within the Biological Sciences there are vigorous research programmes on Fish and Estuarine Biology, Plant-Microbe Interactions, Pollution and Waste Management, Reproductive Studies, Trace Element Studies and Farm Animal Health; in Education, Curriculum Development; in Mathematical and Physical Sciences, Mineral Chemistry; in Human Communication and Social Inquiry, Southeast Asian Studies; and in Social Inquiry, Psychology of the Ageing.
- 1.31 In the Committee's view the Biological Science area (the Schools of Environmental and Life Sciences and Veterinary Studies) is the major academic strength of the University. In this area vigorous undergraduate programmes are complemented by extensive postgraduate study and research activities.

1.32 At present, the University caters for a student load⁶ of 1 740 weighted student units (WSU's). The Universities Commission in its Sixth Report proposed a student load of 2 210 WSU's for the University for 1978 and also recommended an extensive building programme for the 1976-78 triennium. It seems to the Committee that it would be reasonable to assume that the building programme which was recommended for 1976-78 would have been intended to provide accommodation for at least the student load of 2 210 WSU's proposed for Murdoch University for the last year of the 1976-78 triennium, and that perhaps some provision for limited student load growth into the first year or so of the following triennium might have been made.

1.33 The building programme proposed for Murdoch University for the 1976-78 triennium has now been completed and it seems to the Committee that it would not be unreasonable to assume that the physical plant at Murdoch University has a capacity to cope with a student load of some 2 200 WSU's to 2 300 WSU's, provided that the existing balance between internal and external students is maintained and that the additional students are not concentrated disproportionately in laboratory based disciplines.

Issues of Concern

1.34 While Murdoch University has grown substantially since its inception and has developed a number of strengths, the Committee has identified a number of issues which are of concern.

1.35 Firstly, the proportion of first preference applications for places at the University, and the number of school leavers entering the University, has fallen consistently since 1975. In addition, new and total undergraduate student numbers fell in 1979 and the University was not able to achieve its minimum student load target figure. While this pattern of declining undergraduate student numbers was relatively widespread within the Australian university system, both The Western Australian Institute of Technology and the Colleges were able to meet their agreed enrolment targets in 1979.

6. For definition of student load see Notes on Statistics.

1.36 The Committee also believes that the *pattern* of enrolments at Murdoch University gives grounds for concern. At present, the University enrolls a higher than average proportion of mature age students and a lower than average proportion of school leavers. While the proportion of part time students is a little lower than the Australian average, the proportion of part time and external students (55 per cent in 1979) is substantially more than the Australian average which was 37 per cent in 1978. The Committee recognises the need to provide opportunities for part time and mature age students but believes that there is a need to maintain a reasonable balance between the numbers of these students and of school leavers and full time students. Because of Murdoch University's unusual enrolment pattern relatively few students attend the University during the day and the Committee doubts whether it has been possible to attain that "critical mass" of students which is necessary for effective peer group and staff interaction.

1.37 While some of Murdoch University's undergraduate programmes have successfully attracted students, others are still relatively under-developed. Part II programme enrolments in Communication Studies, Chinese Studies, Southeast Asian Studies, Economics, Chemistry, Mineral Science, Mathematics and Physics are very small and staffing in these areas is limited. In addition, it has not always been possible for the University to develop a full range of basic courses in some of the more developed programme areas because student numbers have not in all cases been sufficiently large to justify the number of staff required.

1.38 The relatively small size of the undergraduate student body at Murdoch University has resulted in small numbers of able students in the later years of academic programmes. This is a serious disability to the academic life of the University as such students contribute greatly to the educational vitality of the University (especially of its honours programmes) and provide the basis on which postgraduate studies can be built.

1.39 As mentioned previously, many universities in Australia received a setback in terms of enrolments in 1979. For the majority of universities however, this is only a matter of marginal concern as they are, in the main, reasonably large institutions with well established reputations

Murdoch University, however, has not yet achieved the student numbers required to utilise adequately its physical and other facilities or to provide viable numbers in many of its programme areas. In addition, it seems to the Committee that the University has not yet been operating for long enough for it to have established itself in the public view as a genuinely attractive alternatively form of university education. For these reasons the short fall in 1979 is especially serious for the University.

- 1.40 Murdoch University is well aware of the importance of achieving a good public image and has been active in providing information to potential students and to parents, schools and the community at large about its activities in teaching and research (e.g. open days, schools liaison activities). The Committee commends these activities and recognises that it would have been extremely difficult for it to have achieved general public acceptance, leading to competitive attractiveness to students, within the relatively short period of time since it commenced operations. However, the Committee considers Murdoch University's present standing is such that, in view of the general prospects for growth in higher education in general and in the university sector in particular, it cannot be confidently assumed that the University will be able to grow and develop effectively in the absence of positive supporting action. The Committee believes that it is essential for educational reasons (see paragraphs 1.35 to 1.38) for Murdoch University to grow and develop reasonably rapidly during the next decade or so. Growth of student numbers in disciplines of relatively low cost would not only help to alleviate some of the University's present educational difficulties, but would also reduce average costs per student (which are relatively high due to the presence of the Veterinary School and to low total student numbers) and would lead to increased utilisation of the University's extensive physical facilities.

The Prospects for Growth Within Higher Education in Western Australia

- 1.41 Recent Australia Bureau of Statistics projections of population suggest that the population of Western Australia will grow at a much faster rate over the next 20 years than the population of Australia as a whole. The projections suggest that over the period 1978 to 2001 the population of Western Australia will grow by some 52 per cent while the population of

Australia will grow by only 27 per cent. More importantly though, the projections suggest that over the same period the 17 to 29 year age group in Western Australia will grow by 27 per cent while the growth rate for Australia as a whole will be only 7 per cent. The projections for the 17 to 29 year age group up to the year 2001 will not be altered greatly by changes in fertility or mortality rates that might occur over the period but they would be sensitive to variations from the assumed levels of interstate and overseas migration. It seems to the Committee that there are good prospects for economic expansion in Western Australia and that the assumed levels of migration may well be achieved.

1.42 If the 17 to 29 year age group grows at the rate suggested by the Australian Bureau of Statistics, and if higher education participation rates remain at the levels projected for 1981 and resources are made available to meet increases in demand, then there could be significant increases in student load in both the university and the advanced education sectors in Western Australia in both the medium term and up to the year 2001. On the basis of the information available to it, and on the assumption that each additional enrolment will generate about three quarters of a WSU, the Committee's projections suggest that student load in the university sector could increase by some 375 WSU's between 1979 and 1981, by some 775 WSU's between 1979 and 1984, and by some 2 300 WSU's between 1979 and 2001. Under the same assumptions, student load in the advanced education sector could increase by some 200 WSU's between 1979 and 1981, by some 825 WSU's between 1979 and 1984, and by some 3 250 WSU's between 1979 and 2001.

1.43 It needs to be borne in mind, of course, that the community's propensity to participate in higher education may exceed or fall short of the assumed rates. Indeed there does seem to be some evidence to suggest that across Australia there is a slackening in demand for university education, while in Western Australia the evidence seems to suggest a somewhat higher level of demand for advanced education than for university education. In addition, it is difficult to predict whether additional resources will be available to provide for the additional students projected.

- 1.44 Even if the various assumptions on which the Committee has based its projections turn out to be appropriate, it is difficult to assess the impact of the projected growth in the pool of higher education students on student numbers at Murdoch University. For one thing it is difficult for the Committee to anticipate the levels of growth and the nature of developments that may take place at the other higher education institutions. Similarly, the extent to which Murdoch University will be able to overcome disadvantages associated with factors such as its limited range of courses, its rather isolated location, and the fact that its public image is not yet clearly and adequately defined will only become known over time.
- 1.45 Table 1.5 details the Committee's projections of the *upper limits to growth* in student load at Murdoch University over the period 1979 to 2001. The projections, which assume that student load at The University of Western Australia and in the advanced education sector increases to the maximum of the agreed student load ranges by 1981, and that two-thirds of the remaining potential pool of additional university students and one-half of the remaining potential pool of additional advanced education students will enrol for courses at Murdoch University, suggest that student load at Murdoch University could increase by 625 WSU's between 1979 and 1984 and by 2 850 WSU's between 1979 and 2001.
- 1.46 In the Committee's view, however, there can be no certainty that, without positive action to assist it, Murdoch University will benefit substantially from the potential growth in higher education student numbers in Western Australia over the next twenty years. Accordingly, the Committee is drawn to the conclusion that the difficulties facing Murdoch University at present will not be resolved simply through the passage of time, and that there is a need to take action to ensure that the University can continue to grow and develop in both the short term and the longer term.

General Considerations Underlying the Committee's Recommendations

- 1.47 The Committee has formulated its recommendations in the light of a number of general considerations. Firstly, it believes that funding

TABLE 1.5

UPPER LIMITS TO GROWTH IN STUDENT LOAD,
MURDOCH UNIVERSITY, 1979-2001

	Projected Growth					
	University Sector		Advanced Education Sector		Higher Education	
	to 1984	to 2001	to 1984	to 2001	to 1984	to 2001
Potential Additional Enrolments(a)	1 020	3 077	1 100	4 331	2 120	7 408
Projected Additional Student Load (WSU's)(b)	775	2 300	825	3 250	1 600	5 550
Projected Additional Student Load (WSU's) Corrected for Potential Growth Within Approved Targets at Other Institutions(c)	575	2 100	500	2 925	1 075	5 025
Projected Student Load Growth at Murdoch University(d)	375	1 400	250	1 450	625	2 850

Notes: (a) Based on projected increases in the 17 to 29 year age group (an increase of about 23 000 between 1979 and 1984 and about 72 000 between 1979 and 2001), the participation rates planned for 1981 (4.2 for university education and 6.6 for advanced education), and existing enrolment levels (12 000 in university education and 19 361 in advanced education). See also Tables 4.5 and 4.6.

(b) Assumes that student load is about three-quarters the size of total enrolments.

(c) Assumes that student load at The University of Western Australia will increase from 8 529 WSU's in 1979 to 8 725 WSU's (the maximum of the agreed range) and that student load in the advanced education sector will increase from an estimated 14 520 WSU's in 1979 to 14 838 WSU's (the estimated maximum of the range that has been agreed on for 1981).

(d) Assumes that two-thirds of the remaining potential pool of additional university students and one-half of the remaining potential pool of additional advanced education students will wish to enrol for courses at Murdoch University.

arrangements for the 1979-81 triennium virtually preclude, until 1982 at the earliest, any action which might involve transfers of student load and therefore of recurrent funds between institutions. Secondly, it believes that, in view of financial constraints, any proposals for expansion of existing activities or development of new activities at Murdoch University, at least until the mid 1980's, should be made within the limitations of the University's existing physical plant and, at best, the resources currently available for higher education. Finally, the Committee is of the view that the most effective future development of Murdoch University will occur if those activities which are already soundly established and growing steadily are further strengthened.

1.48 With these general considerations in mind the Committee has given careful consideration to the four specific matters which are raised in its terms of reference. It has also considered a number of other matters which, in its opinion, will play a role in determining the future development of the University. These various matters are discussed in the remainder of this Chapter under the following headings -

- (a) the transfer of activities from other institutions to Murdoch University;
- (b) proposals for new developments at Murdoch University;
- (c) low cost proposals which could contribute to the future development of Murdoch University;
- (d) the role of small universities;
- (e) the implications of the Committee's recommendations.

The Transfer of Activities from Other Institutions to Murdoch University

1.49 It is clear that the size of Murdoch University's student population and the diversity of its courses could be increased significantly by the transfer to it of activities presently conducted within other institutions. Many of the submissions contain suggestions for the transfer of major activities, minor activities and, in some cases, individual members of staff from other institutions to Murdoch; and the Committee's terms of reference refer it to the possibility of strengthening Murdoch by the rationalisation and transfer of activi-

ties, such as Teacher Education, which are presently duplicated elsewhere, and the possibility of transfer of other selected activities from other institutions to Murdoch. In addition, the Williams Committee, in suggesting that consideration be given to an integration of the activities of Murdoch University and The University of Western Australia, commented that The University of Western Australia is short of land for its Faculty of Agriculture and referred to the possibility of Agriculture and Horticulture being developed on the Murdoch site.

1.50 The Committee has given careful consideration to the general question of transferring activities from other institutions to Murdoch University and considers that it would not be appropriate to transfer a number of relatively small units of activity, as such transfers would not result in greatly increased enrolments and would create a considerable amount of tension and ill-will within the higher education system.

1.51 The major proposals for transfer which the Committee considered in depth were the transfer of Agriculture from The University of Western Australia and the transfer of Teacher Education and supporting activities from other institutions. With regard to Teacher Education the Committee has given somewhat closer attention to transferring activities from The Western Australian Institute of Technology in view of comments that the Institute has expanded excessively in non-technological areas. There is no doubt in the Committee's mind that substantial benefits would accrue from the transfer of Agriculture to Murdoch. Similarly, Murdoch would benefit significantly from the transfer of Teacher Education and perhaps some supporting activities in the Humanities and Social Sciences from The Western Australian Institute of Technology, The University of Western Australia and perhaps the Colleges.

1.52 The Committee has come to the conclusion, however, that none of these major proposals for transfer could be carried out in a way that would benefit both Murdoch University and higher education generally in the State. The reasons behind this conclusion relate to *economic, industrial, education and philosophical issues*.

- 1.53 The *economic reasons* for not recommending such transfers are the increased costs that will be incurred when facilities (at least some of which are highly specialised) are vacated at one institution and re-established at Murdoch and, in addition, the costs associated with the diminished or changed responsibilities of both academic and support staff for teaching activities in servicing departments in the donor institution.
- 1.54 Secondly, *industrial issues* will arise whether the transfer is within the university sector or between the university and advanced education sectors. In the former case, industrial issues include the moral and contractual obligations of the Senate of The University of Western Australia to staff who, by choice, joined a well-established and prestigious University. In the latter case there are the more difficult problems of intersectoral transfer, and also the question of moral and contractual obligations to staff. These are primarily related to the choice exercised and, for example, the expectations held by, Institute staff who sought to work for a large multi-purpose college of advanced education. In addition, there are issues related to the selection for transfer of staff with appropriate qualifications, interests and aptitudes for university work.
- 1.55 Thirdly, there are *educational issues* which arise directly out of those described as industrial. It is, of course, quite conceivable that firm and decisive action by governments and coordinating authorities could bring about the transfers considered; but whether this action would be lastingly helpful to Murdoch University or, indeed to higher education in the State, is another matter. An institution of higher education is essentially fragile; it will survive and flourish only if staff are willing and able to accept that particular courses of action are necessary and desirable. It requires a full personal commitment of staff to the value of their work in teaching and research and to the institution they serve. The distortions and tensions which would be produced by the large-scale transfers being considered would, in the Committee's view, inevitably damage the corporate spirit of the new university during those years when that spirit is perhaps most important - for even after any transfer, Murdoch

would face a considerable number of difficult and challenging years. Again, the Committee considers that the possible gains from such actions are outweighed very considerably by the almost certain losses.

- 1.56 Finally, there is what might be termed a *philosophical issue*. This can be baldly stated thus: why *should* the work of two effective, well-established and highly-regarded institutions of higher education, The University of Western Australia and The Western Australian Institute of Technology, be hindered in order to assist another newer institution to grow? If it is suggested that the fundamental reason is because of the value of Murdoch's "alternative path" through university education in Western Australia, then a telling response would be that if the students and the public at large do, in fact, prize that alternative path, Murdoch will make its own way in the future. If its work is *not* so valued, then it cannot flourish as an independent institution with its present educational ethos, whatever is done to assist it; but transfers, while they may well increase the numbers of staff and, potentially, of enrolments, cannot ensure that public acceptance on which its future health depends. On balance, it seems likely to the Committee that transfers may damage the quality and vigour of higher education in the State, rather than strengthen it.

- 1.57 Thus, the Committee fears that action of the kind being considered may well prove damaging to the ethos of Murdoch in such a way as to remove the very reason for its separate existence as an independent university; and at the same time distort and damage the teaching and research activities of The University of Western Australia and The Western Australian Institute of Technology. Murdoch itself recognises these difficulties. In its official submission to the Committee of Inquiry, it points out that *the possibility of transferring academic work from other tertiary institutions to Murdoch...is by its nature an embarrassing one for us...(as we)...have some lively apprehensions about the difficulties involved in both making and recovering from surgical transplanations*. The Murdoch submission concludes, nevertheless, that *some modest expansion* might provide a firmer base for development and *would involve transfers of work*. The Committee has picked up some of these suggestions in its recommendations about concentration of activities and (indirectly) in those about the

establishment of global quotas. It believes that the general comments in this section make it clear why it has not put forward further and more sweeping recommendations about transfer; in so doing, it subscribes to a remark made in the submission from The Western Australian Institute of Technology, namely, that *the prime concern in the consideration of the Committee in making its inquiry should be the interests of students and the community rather than the problems of institutions*. The Committee would also wish to point out that its approach, which attempts to take adequate account of the integrity, characteristic educational style and historical development of educational institutions, is consistent with the "evolutionary" procedures endorsed by the Williams Committee. It has also noted the remarks made by the Tertiary Education Commission in a statement to the Joint Parliamentary Committee of Public Accounts inquiry into funding of tertiary education that *the Commission sees the process of rationalisation of tertiary courses and institutions as being a continuous one generally involving relatively small adjustments rather than a major restructuring...adjustments towards a more rational distribution of resources (in tertiary education) are continually taking place, but they do so within limits imposed by realpolitik*.⁷ In the Committee's view, both educational and political realities prevent it from recommending major transfers of activities to Murdoch.

Proposals for New Developments at Murdoch University

- 1.58 The Partridge Committee argued the need for Murdoch University to broaden its professional base as part of its growth programme and suggested that a School of Law be established in the fairly near future, and that a School of Medicine be established in the longer term. The Committee sees no need for the establishment of a second Law School or a second Medical School in Western Australia for many years to come, but believes that Murdoch University's professional base could be broadened by the establishment of a Commerce School or programme. Such a development would complement the present Economics programme and strengthen a number of other programmes.

7. *Statement to Joint Parliamentary Committee of Public Accounts: Inquiry into Funding of Tertiary Education*, Tertiary Education Commission, Canberra: Canberra Reprographic Printers, 1979, pp. 47-48.

- R.1 *The Committee recommends that the Western Australian Post Secondary Education Commission discuss with Murdoch University the possibility of it developing, on the base of its existing activities, a professional Commerce programme.*

1.59 The Committee does not support a proposal to establish an Optometry programme at Murdoch University on the grounds that such a development would be unlikely to make a significant contribution to the University's future development. It has not commented on proposals to reintroduce a Peace and Conflict Studies programme and to develop a Philosophy programme as it believes that such matters are properly the concern of the University itself, rather than of an external committee of inquiry.

1.60 The Committee believes that, in view of Murdoch University's relative isolation from dormitory suburbs, the provision of student residential accommodation on campus would be beneficial. Such a development may result in the University becoming more attractive to full time students whose homes are at a distance from the University, and would also permit the University to hold on campus residential conferences and short courses for external students. Such activities could very well enhance the public image of the University. While it would certainly be difficult to obtain funds for such a project the Committee believes that Murdoch University should further explore ways of funding student residential accommodation.

- R.2 *The Committee recommends that Murdoch University explore with both government and private agencies ways of funding student residential accommodation.*

Low Cost Proposals

1.61 The Committee recognises that its recommendations regarding new developments at Murdoch University will, at best, have only a limited impact on the University's growth and development over the next twenty years. Accordingly, it has directed its attention to a number of proposals that might enable the University to reach by 1984, at either little or no increase in costs, its estimated student load capacity of between 2 200 and 2 300 WSU's. These proposals are discussed below under the following headings -

*Limitations on Enrolments at Other Institutions**Postgraduate Student Load**The Rationalisation of Activities**Cooperative Teaching Arrangements**The Establishment of Institutes for Teaching and Research**The Joint Use of Facilities**Publicity for Murdoch University's Activities**Limitations on Enrolments at Other Institutions*

1.62 The Committee is of the opinion that while it is unlikely that all applicants unable to obtain places at other higher education institutions in the future would be prepared to accept places at Murdoch University, the most effective way of encouraging growth at the University at little or no cost is to limit enrolments at other institutions. If enrolments at other institutions are restricted, then at least a larger proportion of the increasing pool of higher education students is likely to apply for places at Murdoch University.

1.63 The Committee has explored this issue and believes that some limitations should be imposed on the growth in enrolments at other institutions. In this context, the Committee has noted that The University of Western Australia has expressed a desire to limit its growth to about 8 000 to 10 000 students and, in any event, the Universities Council has pegged its student load target figures (8 575 to 8 725 WSU's) at the same level for each year of the 1979-81 triennium. The Western Australian Institute of Technology is now one of the two largest colleges of advanced education in Australia. It has indicated that it has no present intention to continue its growth in a major way, apart from some limited growth planned for the 1979-81 triennium, largely to cope with a possible increase in the quota on entry into its pre-service Nursing programme. The Colleges are now all of a size where they have the resources to provide good quality programmes and there appear to be only very limited prospects for either diversification or for an increase in their Teacher Education quotas.

- 1.64 Finally, the Committee notes that if the various assumptions on which it has based its analysis of the growth in total student load in Western Australia are borne out, and if enrolments at other institutions are limited to the levels planned for 1981, then Murdoch University's student load could increase by about 625 WSU's to a total of about 2 375 WSU's by 1984, and by about 2 850 WSU's to a total of about 4 600 WSU's by 2001 (see Table 1.5).

R.3 *The majority of the Committee recommends that, for the 1982-84 triennium, student load at The University of Western Australia and in the advanced education sector be limited to levels not greater than those proposed for 1981, and that the position be reviewed in planning for the 1985-87 triennium in the light of Murdoch University's growth and development in the intervening period.*

- 1.65 The minority view is that limiting The University of Western Australia and the advanced education institutions strictly to the planned 1981 enrolment levels will deny educational opportunities for a number of students for whom Murdoch University will not be a possible alternative. This will be a particular problem in those areas of study not offered by that University. In addition, holding to the 1981 student load level will create some difficulties for some of the institutions. For example, the flow through into later years of the planned levels of intakes into the Churchlands College Business Studies programme will result in some increase in Business Studies student load over the 1982-84 triennium. Similarly, the planned development of advanced education courses in the Performing Arts at Mount Lawley College will have implications for the College's student load. While the general thrust should be to restrict enrolments in the other institutions, it would be preferable to allow some flexibility in planning so that under special approved circumstances an institution might at some stage in the future exceed its planned 1981 enrolment level in order to cater for students who wish to study in fields not available at Murdoch University.

1.66 The Committee gave some thought to the possibility of suggesting quotas on specific fields of study at other institutions in an attempt to encourage growth at Murdoch, but came to the conclusion that such action would be educationally undesirable, as it would diminish the capacity of institutions to manage their educational programmes in accordance with their own judgments about priorities, and almost certainly lead to under-utilisation of staff and facilities.

1.67 The only exception to this that the Committee considered was in the field of Teacher Education where the public at large and all of the institutions recognise the need to limit enrolments because of the employment situation. The Committee has been informed by the Western Australian Post Secondary Education Commission that it may be necessary at some stage in the future to increase intakes into pre-service Teacher Education courses in Western Australia to meet demand. Although the Murdoch School of Teacher Education is uneasy about any great increase, the Committee believes that the University would benefit from some increase in Teacher Education students.

R.4 *The Committee recommends that, should it become necessary in the future to increase intakes into pre-service Teacher Education courses in Western Australia, the Western Australian Post Secondary Education Commission ask Murdoch University to increase its intakes and other institutions to refrain from increasing their intakes.*

1.68 While the Committee is not prepared to recommend the introduction of additional specific quotas, it is of the view that reduced enrolments in the Humanities and Social and Natural Sciences at The University of Western Australia and The Western Australian Institute of Technology could lead to an increase in the number of students in these areas at Murdoch. The Committee hopes that it will be possible for The University of Western Australia and the Institute to take some account of this view in planning their admissions policies over the next few years; in general, indeed, the Committee hopes that any reductions in student load that institutions may have to make elsewhere to cope with increases in student load resulting from new or expanded activities will be in areas where Murdoch University also offers programmes as this may lead to an increase in the level of demand for places at Murdoch.

1.69 In this context, the Committee is aware that The Western Australian Institute of Technology subscribes to the all embracing definition of technology (the application of knowledge to satisfy human needs) which was enunciated by the Commonwealth Advisory Committee on Advanced Education in its Second Report.

1.70 The Committee does not necessarily subscribe to this definition. It accepts, however, that institutions such as The Western Australian Institute of Technology have a role to play in the provision of courses in fields of study such as Teacher Education and the Humanities and Social Sciences. Enrolments in these fields of study at the Institute are large, however, and provide competition in a general sense to Murdoch University. It seems to the Committee that the limitation of total enrolments at the Institute will not *necessarily* lead to increased enrolments at Murdoch unless enrolments in the non-technological areas at the Institute are reduced somewhat below the present levels. In this context it would seem to be appropriate for the Western Australian Post Secondary Education Commission to continue to review on a regular basis enrolment trends in the non-technological areas at the Institute.

Postgraduate Student Load

1.71 Murdoch University's undergraduate teaching programme derives substantial support from its vigorous postgraduate study and research activities. Demand for postgraduate places has been high and the Committee is of the view that the University should, if it wishes, be permitted to exceed its higher degree student load target figures for the remainder of the 1979-81 triennium, and that from 1982 onwards its proportion of higher degree load should be maintained at about the national average.

R.5 The Committee recommends that, within the limits of its total student load, Murdoch University should, if it wishes, be permitted to exceed its present higher degree student load target figures in 1980 and 1981; and that higher degree student load be increased to about 380 WSU's in 1982 and then maintained at a level equivalent to 18 to 19 percent of total student load.

- 1.72 Acceptance of this recommendation should make it easier for the University to achieve its target student load figures over the next few years as the Committee understands that the University has been in the position of turning away potential higher degree students.

The Rationalisation of Activities

- 1.73 There are a number of areas within the higher education system in Western Australia where, in the Committee's opinion, better use of available staff and resources would occur if activities presently spread over a number of institutions were coordinated and concentrated at one location.

Asian Studies

- 1.74 One such area is Asian Studies. There are relatively small student numbers in Murdoch University's Chinese Studies and Southeast Asia Studies programmes, in The Western Australian Institute of Technology's Asian Studies programme and in The University of Western Australia's Japanese Studies programme, and the Committee believes that this is an area that would benefit from a drawing together and pooling of available resources in the three institutions, particularly as there appears to be a substantial degree of overlap in courses in both the Language and Cultural Studies areas.
- 1.75 The Committee is of the view that the teaching of Asian Languages (Chinese, Japanese, Indonesian and Malay) should be developed at one institution with a language laboratory which could be developed as a "specialist resource" to serve the State as a whole. The Committee is also of the view that it would be advantageous to concentrate all, or most of the teaching of Asian Cultural Studies (covering China, Japan, Southeast Asia, India and Asia generally) with the teaching of Asian Languages. It recognises that some benefits would be obtained by consolidated Asian Language and Cultural Studies programmes at each of the institutions but believes that consideration should be given to transferring the programmes from The University of Western Australia and The Western Australian Institute of Technology to

Murdoch University. The programmes would fit comfortably within the Murdoch structure and would help to increase student numbers, perhaps by some 100 WSU's. However, the way in which these programmes might be transferred requires much more detailed consideration.

- R.6 *The Committee recommends that the Western Australian Post Education Commission review, with the institutions concerned, the need for and provision of courses in Asian Languages and Asian Cultural Studies at the university and advanced education levels in Western Australia with a view to recommending the concentration of all or most of these activities at one institution.*

External Studies

- 1.76 The Committee has noted that the Western Australian Post Secondary Education Commission is in the process of reviewing the whole question of the provision of external studies in Western Australia. From the point of view of educational balance, the Committee suggests that the proportion of external students at Murdoch University should not be increased significantly. The University does, however, have a special interest in, and commitment to, external studies, and it may be that its contribution would be enhanced if a number of programmes (such as Computing Science, Mathematics and Physics) were reserved exclusively for it. This would also result in a small increase in student load, perhaps of the order of 20 WSU's.

- R.7 *The Committee recommends that, in reviewing the whole question of the provision of external studies in Western Australia, the Western Australian Post Secondary Education Commission give some consideration to identifying fields of study which might be developed exclusively in this mode by Murdoch University.*

Master's Degrees

- 1.77 Several submissions have suggested that colleges of advanced education should not offer master's degrees and, in particular, that the development of some such courses at The Western Australian Institute of Technology offers unnecessary competition to those at Murdoch University. At present, only a limited number of master's degree

programmes is offered by the Institute and, in general, enrolments are small. In fact, it is only in the Science field where there is any significant overlap between the Institute courses and master's degree courses offered by Murdoch University.

- 1.78 The Committee finds it impossible to specify criteria that would clearly distinguish between master's degrees which should be offered only in universities and only in colleges. There is more in common in the programmes than is divergent. The Committee is of the opinion, however, that it is desirable to guard against unnecessary competition at the master's degree level between universities and colleges of advanced education. It believes that it will be important to continue to exercise some control over the development of additional master's courses in Western Australia in the immediate future in order to assist Murdoch University's development.

R.8 The Committee recommends that, in view of the desirability of avoiding unnecessary duplication, and therefore competition for master's degree students, the following guidelines be adopted by the Western Australian Post Secondary Education Commission for the consideration of proposals for new master's degree courses in the advanced education sector -

- (a) The programme should have some degree of distinctiveness about it, whether this be because the field of study is unique to the college of advanced education or because the programme adopts an approach which is not followed by other local institutions. Distinctiveness may be related also to staff, curriculum design or facilities.
- (b) Potential student numbers in a field of study are relevant - but in different ways that are sometimes hard to assess. The provision of alternative programmes for students, rather than just increasing enrolments in an existing programme, may be important where enrolments justify it.
- (c) College of advanced education courses should contribute to the major mandate of colleges; that is they should be applied or vocationally oriented. Hence some orientation towards employment opportunities, continuing professional education, etc., should be expected.

- (d) *Unnecessary duplication should be avoided, especially where it involves heavy costs.*

1.79 Given the need to utilise staff and resources as wisely as possible, the Committee considers that cooperative planning and teaching in some fields would also be appropriate, particularly as the total demand in the State for places in some programmes will be limited. A cooperative and administrative arrangement between institutions should enable the specialised abilities of staff to be used in teaching and the supervision of projects; should permit the placement of students in the institution most appropriate for their chosen programme; and should reduce unnecessary competition.

R.9 *The Committee recommends that the higher education institutions in Western Australia keep under review opportunities for the cooperative presentation of higher degree programmes including arrangements for joint supervision of research students and joint coursework programmes.*

Pre-Service Postgraduate Diploma Courses in Primary Teacher Education

1.80 At present, pre-service postgraduate diploma courses in Primary Teacher Education are offered by Murdoch University, The University of Western Australia, The Western Australian Institute of Technology and Claremont Teachers College. Enrolments in all of these courses are very small and the Committee considers that it would be beneficial to rationalise the programmes. Indeed, the Committee was inclined to recommend that the programmes be restricted to two institutions, Murdoch University and Claremont Teachers College. This arrangement would have provided a reasonable geographic distribution of programmes and would have enabled potential students to choose between a university programme and an advanced education programme. It would also have provided Murdoch University with an opportunity to increase its student load and may have made it feasible for the University to develop a complementary postgraduate diploma programme in Early Childhood Teacher Education in due course.

1.81 The Committee understands that Murdoch University has doubts about the adequacy of a one year primary Teacher Education programme for graduates and requires such students to complete a one and a half year undergraduate pre-service programme.

R.10

The Committee recommends that if Murdoch University is able to develop a one and a half year pre-service primary Teacher Education programme for graduates which is acceptable to the State Education Department, then the Western Australian Post Secondary Education Commission discuss with the institutions concerned the possibility of concentrating pre-service primary Teacher Education courses for graduates at Murdoch University and Claremont Teachers College.

Cooperative Teaching Arrangements

- 1.82 The Committee's terms of reference require it, inter alia, to make recommendations as to the future development of Murdoch University with particular reference to possible areas of cooperative teaching between institutions to assist the development of the programmes at Murdoch University.
- 1.83 Small universities such as Murdoch are inevitably limited in terms of the range of units and programmes they can provide. The Committee considers that the breadth and depth of some of Murdoch's programmes would be enhanced if some units offered by other institutions were made available on a formal basis, perhaps through "contracting",⁸ to Murdoch students, and that this might increase the attractiveness of the University to students. Such an approach would also lead to a more efficient use of resources in the higher education system as a whole, and would reduce the pressure on Murdoch University to spread its resources too thinly by offering and staffing a larger number of relatively small-enrolment, low-demand units.
- R.11 *The Committee recommends that Murdoch University explore with other institutions the prospects for the further development of cooperative teaching between institutions, with the primary aim of enhancing the breadth and depth of Murdoch University's programmes, mainly through the provision of courses by "contracting".*

8. "Contracting" is an arrangement whereby one institution might offer approved courses to students in another institution.

- 1.84 The Committee believes that Murdoch University might benefit if individual students or groups of students from other institutions were encouraged to include one or more Murdoch units in their programmes, and if opportunities for Murdoch staff to participate in undergraduate and postgraduate teaching at other institutions were extended. The Committee hopes that Murdoch University will also explore these issues with other institutions.

The Establishment of Institutes for Teaching and Research

- 1.85 The institutions of higher education in Perth have developed a number of relatively small activities in various academic fields which are to some extent complementary, and to some extent competitive: for example, in Mineral Sciences, Energy Studies, Asian Studies and Languages, Psychology, Marine Science, and External Studies.
- 1.86 Each institution is now faced with problems of maintaining its particular activity in these areas with little prospect of growth in either student numbers or funds for teaching and research. There is a real danger of the development of a wasteful duplication or competition for the available students and, therefore, resources; indeed there is evidence that undesirable developments of this kind have already occurred.
- 1.87 The Committee is of the view that it would now be sensible to identify areas of work within which effective joint action is possible, and in each area to establish a "coordinating group," comprising members drawn from each of the participating educational institutions and such other organisations as are appropriate in each case, to arrange for the maximum level of co-operation and coordinated development. Coordination could require a wide range of action, from full collaboration between staff groups located in each of the participating institutions (through "contracting", cross accreditation of courses, joint research supervision, collaboration in research and shared staffing arrangements), to concentration of all contributing staff (and students) within one institution.

1.88 The Committee is of the view that action should be taken in the fairly near future to establish teaching and research Institutes in Mineral Science, Energy Science and Marine Studies, and that while the impact on student load would be small, some consideration should be given to focussing some aspects of the State's activities in these areas on Murdoch University.

R.12 The Committee recommends that the institutions concerned, and other appropriate organisations, establish a working party to investigate, in the light of the Committee's comments regarding the establishment of institutes, the feasibility of establishing an "Institute for Teaching and Research in Mineral Science".

R.13 The Committee recommends that the institutions concerned, and other appropriate organisations including, perhaps, the Solar Energy Research Institute of Western Australia, establish a working party to investigate, in the light of the Committee's comments regarding the establishment of institutes, the feasibility of establishing an "Institute for Teaching and Research in Energy Science" to deal with studies of Energy Science in general and associated policy issues.

R.14 The Committee recommends that the institutions concerned, and other appropriate organisations, establish a working party to investigate, in the light of the Committee's comments regarding the establishment of institutes, the feasibility of establishing an "Institute for Teaching and Research in Marine Studies".

The Joint Use of Facilities

1.89 The Committee is impressed at the extent to which the higher education institutions in Western Australia are cooperating with each other in the joint use of expensive resources and facilities. However, in view of the increasingly difficult resource situation it believes that it might be appropriate for the institutions to give some further thought to this matter, especially to -

- (a) the joint use of libraries;
- (b) the preparation of audio-visual teaching materials;
- (c) the sharing of resource materials for external studies; and
- (d) the purchase and use of costly items of equipment.

1.90 In this regard, the Committee suggests that it might be helpful if the Chief Executive Officers (or their nominees) of all of the post secondary education institutions review regularly the joint use and development of facilities, cooperative teaching arrangements, and arrangements for the joint presentation of higher degree programmes.

Publicity for Murdoch University's Activities

1.91 It appears to the Committee that Murdoch University's strengths are not yet sufficiently well known, nor has its public image made it sufficiently attractive to potential students. The Committee recognises that it takes a considerable time for a new institution to become known and for it, and its graduates, to earn the respect of the community. The Committee believes that the University is aware of the importance of achieving a good public image and hopes that it will continue, and perhaps expand, the activities which provide information to potential students and other members of the community.

The Role of Small Universities

1.92 The Committee's terms of reference refer to the suggestion contained in the Williams Report that the range of subjects in small universities be reduced and the role of such universities be re-examined.

1.93 The Williams Report discussed in some detail the role of small universities and, particularly, the desirability of restricting the range of subjects offered in such institutions in the interests of economy and efficiency. Its considerations were set in the context of a discussion of the "precept" that a university offering courses in the Humanities and Social Sciences and Sciences needs at least 4000 equivalent full time students (which approximates a student load of about 4 000 WSU's) to provide teaching and research at reasonable

cost.⁹ The Williams Report refers to the fact that this "precept" is based on assumptions about the number of departments in Faculties of Arts, Science, Social Science, and the number of staff in each department required to provide for specialisation. It suggests that while these assumptions have never been openly discussed, there are now signs that the Universities Council is reappraising its views, and that in the next twenty years it is likely that small universities will only be able to operate economically if they offer a smaller range of subjects than was envisaged during the planning stage and approved by the Universities Council for financing.

1.94 The Committee endorses the view that a small "liberal arts" university can offer academically acceptable programmes by concentrating activities within the Humanities, and the Natural and Social Sciences. It believes, however, that such concentration is only likely if development has proceeded in such a way that the University has been able to make careful and deliberate choices about what disciplines it includes in its programmes and what it excludes. Provided that such choices are possible, a small "liberal arts" university should be able to operate economically with significantly fewer than 4 000 WSU's, perhaps with as little as 3 000 WSU's. The Committee also believes that a number of recently established and still small Australian universities simply have not had either the opportunity to plan for limited development of this kind, nor the resources to provide for presentation in depth of the basic disciplines in the Humanities and Sciences.

1.95 In relation to Murdoch, the Committee has reviewed carefully this matter of size and educational and economic development. It recognizes that Murdoch's range of programmes extend well beyond that of a "liberal arts" university, as about one third of its present student load is attributable to its two professional Schools, Education and Veterinary Studies. The Committee is also aware that the initial planning for Murdoch University was based on rather optimistic assumptions about growth, and that the University soon realised that, in the light of changing circumstances, it would have to plan on the basis of more limited growth than originally anticipated. The Com-

9. *Education, Training and Employment*, Vol. 1, p.204.

mittee believes that the University has been careful about the range of development of its subject offerings and understands that it has undertaken at least one review of its units leading to termination of a number with small enrolments. Consequently, and bearing in mind that the University offers a very limited range of programmes at present, it seems to the Committee that it would be inappropriate to recommend action that would result in a further reduction in the range of programmes at Murdoch. Its need is perhaps rather to find ways of extending its present range somewhat; but in view of the relatively small size of the University and its limited resources, the Committee believes that further programmes should only be developed after very careful scrutiny of the impact on the pattern of enrolments and costs. (It is for this reason that the Committee suggests that Murdoch should make greater use of cooperative teaching arrangements to increase the range of subjects available to its undergraduate students. (See R.11)).

- R.15 *The Committee recommends that no major new activities be developed at Murdoch University unless and until it is clear that they can be adequately funded and will attract significant numbers of additional students; and that Murdoch University continue on a regular basis its process of reviewing the subjects offered and the opportunities available for "contracting in" additional subjects.*

- 1.96 The Committee also draws attention to the fact that acceptance of this line of reasoning implies that Murdoch's continuation as an independent university also requires acceptance of the fact that the cost per student at Murdoch will remain relatively high for some considerable time. It is very difficult to be precise about the basis for the calculation of an "economic size" for a university, especially one which for special reasons contains a most expensive professional school (Veterinary Studies). The Committee has not addressed itself to the question of "economic viability" except in the most general terms (for example, in commenting on the under-use of facilities; the desirability of sharing high cost facilities such as libraries, computer installations, etc.; and the cost of academic diversification in a small university). It accepts, however, the Williams Committee's view that the economic size of Murdoch University, given the present formula for financial grants to universities providing studies in

Arts, Science, Education and Veterinary Science, is approximately 4 500 equivalent full time students.¹⁰

The Implications of the Committee's Recommendations

1.97 As indicated previously, student load at Murdoch University in 1979 is a little below the minimum of its present target range. In addition, some limited growth is provided for in the target ranges which have been set for 1980 and 1981. The Committee believes that the action it has recommended can have only a limited impact on total student load during the remainder of the 1979-81 triennium, but should lead to increases in student load during the 1982-84 triennium and up to the year 2001. The potential effects of the Committee's recommendations are detailed in Table 1.6.

TABLE 1.6
POTENTIAL EFFECTS OF THE COMMITTEE'S RECOMMENDATIONS
ON STUDENT LOAD AT MURDOCH UNIVERSITY, 1979-2001

	Student Load (WSU's)	
	1984	2001
Existing Student Load (1979)	1 740	1 740
Limit Enrolments at UWA ^(a)	+ 375	+1 400
Limit Enrolments at WAIT and the Colleges ^(a)	+ 250	+1 450
Concentrate Asian Studies at Murdoch ^(b)	+ 100	+ 100
Reserve Some Areas of External Studies for Murdoch ^(c)	+ 20	+ 20
Potential Student Load	2 485	4 710

Notes: (a) See Table 1.5
(b) See paragraph 1.75
(c) See paragraph 1.76

10. *Education, Training and Employment*, Vol. 1, p.182.

1.98 The table shows that on the basis of the Committee's recommendations (R3, R.6 and R7) and in the light of the various assumptions regarding the growth and distribution of enrolments, student load at Murdoch University could increase from 1 740 WSU's in 1979 to about 2 500 WSU's in 1984, and could increase further to about 4 700 WSU's in 2001. The Committee is of the view that while the various other recommendations it has made will not lead to further increases in student load, they should assist Murdoch's general educational development.

1.99 The potential student load figure of 2 500 WSU's in 1984 is somewhat in excess of the Murdoch University's present physical capacity of 2 200 to 2 300 WSU's. The Committee's calculations of potential increases in student numbers are necessarily tentative and it may be that a figure of 2 500 WSU's by 1984 is too optimistic. It seems to the Committee, however, that it should be possible for Murdoch University to achieve a student load at least equivalent to its present capacity of some 2 200 to 2 300 WSU's by 1984 and that the desirability of providing the University with the resources to cater for such a student load should be taken into account in planning for the 1982-84 triennium .

R.16 *The Committee recommends that in planning for the 1982-84 triennium the Western Australian Post Secondary Education Commission and the Commonwealth Tertiary Education Commission take into account the desirability of providing Murdoch University with sufficient resources to enable it to cater for a student load of at least 2 200 to 2 300 WSU's by 1984.*

1.100 The Committee's longer term projections suggest that if its recommendations are accepted, Murdoch University's student load could increase by some 3 000 WSU's to about 4 700 WSU's by 2001. It seems to the Committee that, as the Williams Committee suggested, a student load of around 4 500 WSU's would be sufficient to enable a university such as Murdoch, which offers courses in the Humanities and Social and Natural Sciences and in Education and Veterinary Science, to operate economically. It needs to be acknowledged, however, that the cost per student at Murdoch University will remain relatively high for some considerable time to come.

1.101 The Committee believes that the implementation of the action it has recommended will result in growth and development at Murdoch University. Further growth and development would enable Murdoch to capitalise on the significant progress it has made since its establishment and enable it to play an increasingly important and major role within the Western Australian community.

CHAPTER 2

POST SECONDARY EDUCATION¹ IN WESTERN AUSTRALIA

Institutions

- 2.1 At present there are two universities, six colleges of advanced education, fifteen technical colleges and a variety of evening technical schools and technical centres in Western Australia. Three more technical colleges are under construction and planning for a number of additional metropolitan technical colleges and for two more broadly based post secondary education colleges which will be located in the Pilbara, is taking place.
- 2.2 The Committee is of the view that the activities of the various technical colleges, schools and centres are unlikely to impinge to any great extent on the activities of Murdoch University. Accordingly, the remainder of the discussion in this report is set in the context of the higher education² system in Western Australia.
- 2.3 The various institutions which constitute the higher education system in Western Australia are described in paragraphs 2.4 to 2.27 of this Chapter. The development of the higher education system in Western Australia has taken place in the context of a number of major State and Commonwealth reports on post secondary education. Some of the views and recommendations contained in these reports have played a major part in shaping the role and development of institutions in the State and, accordingly, selected extracts from some of these reports are reproduced in Appendix C of this report.

The University of Western Australia

- 2.4 The University of Western Australia was established under the provisions of the *University of Western Australia Act 1911* and opened in 1913. It is a large diversified institution which offers a wide range of courses in a variety of fields of study. In terms of the fields of study
-
1. Post Secondary education refers to those activities that are concerned with people who seek further education beyond the age of compulsory schooling and outside the institutions of secondary education.
 2. Higher Education refers to post secondary education that takes place in universities and colleges of advanced education.

identified by the Committee³ it offers courses in Agriculture, Architecture, Biological Sciences, Economics and Commerce, Education, Engineering, Health Sciences (Dentistry and Medicine), Humanities and Social Sciences, Law, Mathematics and Physical Sciences and Physical Education and Recreation.

- 2.5 The University of Western Australia grew rapidly in the sixties and early seventies and now enrolls almost 10 000 students. The Jackson Committee, which reported to the Premier of Western Australia in 1967, put the view that the maximum population of the University should not exceed 8 000 full time and 2 000 part time students on its present campus.⁴ The Partridge Committee, which reported to the State Minister for Education in 1976, noted that the University, as a matter of deliberate policy, had entered what was virtually a "no growth" phase of its development and that while there would be some redistribution of undergraduate numbers among the various faculties, future growth was likely to be mainly in the strong postgraduate school. The Partridge Committee concluded that unless the existing policy were to be reversed, it appeared that decisions made within the University were unlikely to have a major impact on the development of the other institutions.⁵

Murdoch University

- 2.6 Murdoch University was established under the provisions of the *Murdoch University Act, 1973* and admitted its first undergraduate students in 1975. It is much smaller than The University of Western Australia and is involved in significantly fewer fields of study, namely Biological Sciences, Economics, Education, Humanities and Social Sciences, Mathematics and Physical Sciences and Veterinary Science.
- 2.7 The need for a second major university facility in Western Australia was raised by the Jackson Committee when it reported in 1967. The Jackson Committee was of the view that facilities would need to be in operation on another site at the latest by 1975 in view of projections of university enrolments and the desirability of limiting numbers at the Crawley campus of The University of Western Australia.⁶

3. See Notes on Statistics.

4. *Tertiary Education in Western Australia*, p.23.

5. *Post Secondary Education in Western Australia*, p.139.

6. *Tertiary Education in Western Australia*, p.23.

- 2.8 The Jackson Committee argued that in view of the population of the State and economic considerations the new institution should, in the first instance, be a university college under The University of Western Australia, catering for first and second year students in Arts and Science and thereby relieving points of greatest pressure at Crawley. The Committee went on to say that whether the new institution subsequently developed higher courses and achieved independence would be a matter for decision at a later date and that it would not be necessary or desirable to predict what course development should take place in the more distant future.⁷
- 2.9 Extensive discussions regarding the nature of the proposed second university institution took place within The University of Western Australia during the late sixties and in September 1969 the Senate of the University advised the Premier of its conclusions, namely that the University should not plan for the establishment of a university college, as had been recommended by the Jackson Committee in 1967 and that instead a new university should be planned which should be autonomous from the beginning. The Premier was also informed that the Senate had been impressed by the significantly new approach to planning and development which had emerged where a university had been autonomous from the beginning and that its recommendations were based very much on the University's concern that full opportunity should be taken for a fresh approach to the role of a university today and how this role should be performed. The decision had also been influenced by later estimates of total university enrolments which indicated a possible enrolment by 1980 of over 10 000 students at Crawley and over 2 000 on a second site compared with the Jackson Committee's projections for that date of 8 500 at Crawley and 1 700 at the second site. The view that the new institution should be established from the outset as a separate independent university was accepted by the State Government and put to the Australian Universities Commission for consideration in relation to the 1970-72 triennium.⁸ The Australian Universities Commission accepted

7. *Tertiary Education in Western Australia*, p.23.

8. The discussion in this paragraph is based largely on the Murdoch University Planning Board's submission to the Australian Universities Commission for the 1970-72 and 1973-75 triennia. A more detailed analysis of the role and development of Murdoch University is contained in Chapter 3 of this report.

the arguments put to it and made available funds to allow for the planning of a new university to receive students in 1975.⁹

- 2.10 Subsequently, the Commonwealth Government proposed that Australia's fourth Veterinary School should be established in Western Australia and while consideration was given to establishing it at The University of Western Australia, it was finally agreed that it would constitute part of the proposed new university.
- 2.11 The Partridge Committee in 1976 expressed the view that Murdoch University should be encouraged to grow at "reasonable speed" until it reached a viable size which was set very roughly at 4 000 to 5 000 students. The Partridge Committee noted that almost any major new development that could be proposed for Murdoch University would duplicate activities at the older institutions, but suggested that such duplication was not necessarily a bad thing provided that aspects such as community need and community demand in relation to costs involved in duplication were considered.¹⁰
- 2.12 The Partridge Committee also argued that Murdoch University should strive to broaden its professional base as part of its growth programme on the grounds that universities derive substantial strength from their professional areas and that many of the additional students who would be seeking university education during the next 10 to 15 years would want to enter one of the professions. It went on to suggest that consideration should be given to establishing a School of Law at Murdoch University in the fairly near future and that, in the longer run, a Medical School should be established.¹¹
- 2.13 The Williams Committee noted that, while the expansion of the Australian university system in the postwar years took place largely in accordance with plans proposed in 1957 by the Murray Committee on Australian Universities and in 1964 by the Martin Committee on Tertiary Education in Australia, the creation of Murdoch University (and of Deakin University) was a departure from the plans.¹²

9. *Fourth Report of the Australian Universities Commission*, Australian Universities Commission, Canberra: Government Printer, 1969, pp. 37, 38.

10. *Post Secondary Education in Western Australia*, pp. 143.

11. *Post Secondary Education in Western Australia*, pp. 143, 144.

12. *Education Training and Employment*, Vol. 1, p.189.

The Colleges

2.14 Teachers Colleges were established in Western Australia as follows -

- 1902 Claremont Teachers College
- 1955 Graylands Teachers College
- 1967 Western Australian Secondary Teachers College
(now Nedlands College)
- 1970 Mount Lawley Teachers College
(now Mount Lawley College)
- 1972 Churchlands Teachers College
(now Churchlands College)

2.15 Graylands Teachers College is now in the process of being phased out and the last group of students enrolled at the College will complete their courses at the end of 1979.

2.16 The Colleges were initially established under the jurisdiction of the Education Department of Western Australia. In 1973 they were granted college of advanced education status and established as constituent colleges of the Western Australian Teacher Education Authority. Since January 1979 they have operated as independent self governing institutions under the *Colleges Act, 1978*.

2.17 The Colleges are also much smaller than The University of Western Australia and, while some diversification has occurred, they are still primarily involved in the provision of courses in teacher education. In 1979 Churchlands College enrolled 1 860 equivalent full time students and offered courses in Early Childhood and Primary Teacher Education and Business Studies. Claremont Teachers College enrolled 851 equivalent full time students and offered courses in Primary Teacher Education and Health Education. Graylands Teachers College enrolled 127 equivalent full time students and offered courses in Primary Teacher education. Mount Lawley College enrolled 1 410 equivalent full time students and offered courses in Primary Teacher Education. Nedlands College enrolled 1 474 equivalent full time students and offered courses in Secondary Teacher Education, Recreation and Library Media.

- 2.18 The Partridge Committee argued, inter alia, that the Colleges should be encouraged to grow to a viable size within a reasonable time but did not reveal its views regarding the viable size of the Colleges. It concluded, however, that the restricted sites of Claremont Teachers College and Nedlands College would deny the possibility of anything more than minimal expansion and that, accordingly, these institutions would continue to be essentially teacher education colleges. Churchlands and Mount Lawley Colleges, however, did offer the possibility of future growth and diversification because of their greater site areas.¹³
- 2.19 Because of their similarities the Colleges are grouped together in much of the analysis in this report.

The Western Australian Institute of Technology

- 2.20 Buildings for The Western Australian Institute of Technology were commenced in 1963 and the Institute was established as a college of advanced education under the provisions of the *Western Australian Institute of Technology Act, 1966*. The Institute, like the University of Western Australia, is a large diversified institution which offers a wide range of courses in a variety of fields of study. In terms of the fields of study identified by the Committee it offers courses in Agriculture, Architecture, Art and Design, Biological Sciences, Economics and Commerce, Education, Engineering, Health Sciences, Humanities and Social Sciences and Mathematics and Physical Sciences.
- 2.21 According to one commentator¹⁴ The University of Western Australia shed much of its sub-graduate work during the Second World War and became more theory and research oriented than formerly, and its theoretical and research orientation became increasingly marked during the growth period of the fifties and sixties. The rapid population and economic expansion which took place in Western Australia in the fifties and sixties resulted in a need for more skilled manpower and the Perth Technical College, which had been involved in tertiary level work for many years, expanded some of the activities it had taken over from The

13. *Post Secondary Education in Western Australia*, pp.138, 145.

14. The discussion in paragraphs 2.21 and 2.22 is based on the analysis contained in *The Specific and Inter-related Tasks of Institutions of Tertiary Education in Western Australia*, M. White, Unpublished Ph.D. Thesis, The University of Western Australia, 1968.

University of Western Australia during and after the war years and also developed a number of new courses. The tertiary level courses offered by the Perth Technical College were upgraded over the years, often to meet the requirements of professional associations, and by 1965 the College was offering associateship courses, consisting of three years of full time work beyond the completion of secondary education or its equivalent, in Architecture, Applied Science, Business Administration, Chemistry (three specialisations), Commerce, Engineering (seven specialisations), Home Economics, Land Surveying, Management Accounting, Mathematics, Medical Laboratory Technology, Metallurgy, Pharmacy, Art Teaching, Educational Administration, Production Management, Public Administration, Psychological Studies, Quantity Surveying, Social Science and Town and Regional Planning.

- 2.22 Discussions regarding the establishment of a separate senior technical institution to take over the tertiary level work of the Perth Technical College took place within the Education Department during the late fifties and early sixties and a firm decision to establish the Western Australian Institute of Technology within the Technical Education Division of the Education Department was made in May 1962. Among the reasons which led the Education Department to recommend the establishment of a new institution concentrating on tertiary level work were the numbers of students involved, the need for new facilities, and the desire to provide different conditions for tertiary level staff and work.

- 2.23 The Jackson Committee was asked to report as a matter of urgency on the future government of the Institute, and, in an interim report issued in October 1966, it recommended that the Institute be separated from the Technical Education Division and granted autonomous standing.¹⁵ The Institute was subsequently granted autonomy in 1967. In moving the second reading of the Bill to establish The Western Australian Institute of Technology the Minister for Education said -

The purpose of this Bill is to establish the Western Australian Institute of Technology as a fully autonomous institution independent of departmental control. The institution is conceived primarily as a professional technical establishment, and will provide a comprehensive tertiary education in courses designed to meet the needs of industry, business and community services, including health and education.

15. *Tertiary Education in Western Australia*, p.85.

For the time being it will also house sub-professional technician courses - more particularly the later years of these courses. However it is expected that these will be off-loaded to other technical colleges and schools as more complete use is made of the laboratories and classrooms of the institute by the professional courses. The institute is planned as a facility for the State as a whole. It is envisaged that in time it will have branches in major country centres, and land is being set aside for this purpose.

The south Bentley site at present houses the departments of chemistry, mathematics and physics, and will, in time, encompass such other subjects as architecture, engineering, surveying, art, accountancy, management and administration, librarianship, and various branches of teaching.

The institute will perform a complementary role in the field of tertiary education to that of the University. While the major concern of the University is in research and scholarship, the main concern of the institute will be in the production of professional people with a strong bias towards application and production, and the immediate needs of professional practice.

Obviously, courses will contain a substantial body of theory, but this will be closely related to practice with a view to developing the ability to apply theory in the practical situation. The advancement of knowledge will be an objective of the institute but will remain subsidiary and complementary to the teaching function.¹⁶

2.24 The Jackson Committee recommended, inter alia, that -

- (a) Muresk Agricultural College transfer from the control of the Department of Agriculture and become part of an agricultural department to be set up in The Western Australian Institute of Technology;
- (b) the School of Mines of Western Australia be made autonomous and independent of the Mines Department;
- (c) the Schools of Occupational Therapy and Physiotherapy be brought together as a department of The Western Australian Institute of Technology;
- (d) the College of Nursing, Australia, be encouraged to consider affiliation with a tertiary educational institution with a view to widening the scope of the courses that it provides for nurses;
- (e) the next provision for teacher education be the establishment of a department in The Western Australian Institute of Technology; and

16. *Western Australian Parliamentary Debates (Hansard)*, Perth: Government Printer, Vol. 175, pp.2604-2610.

(f) the Kindergarten Teachers' College be given the opportunity to enter into close association with a more diversified tertiary institution, should it at any time desire to do so.¹⁷

- 2.25 The State Government accepted the Jackson Committee's recommendations regarding the incorporation into The Western Australian Institute of Technology of Muresk Agricultural College and the Schools of Occupational Therapy and Physiotherapy. In addition the State Government decided, following representations made by the mining industry, that the School of Mines of Western Australia should also be incorporated into The Western Australian Institute of Technology rather than become an autonomous institution. The College of Nursing subsequently sought, and was granted, incorporation within the Institute in 1973.
- 2.26 The Nott Report on Pre-School Education in Western Australia, which was released in 1972, recommended, inter alia, that the Kindergarten Teachers' College be incorporated into The Western Australian Institute of Technology¹⁸ and the College itself subsequently sought, and was granted, incorporation and became part of the School of Teacher Education which was being developed in accordance with the recommendation of the Jackson Committee.
- 2.27 The Partridge Committee, which reported in 1976, indicated that it regarded the growth policy of the Institute as the key factor in the development of all tertiary institutions in the State. It suggested that the Institute could best serve the community as a institute of *Technology* and that developments in the non-technological areas had been excessive. It went on to suggest that growth in the non-technological areas at the Institute should be controlled so that future development in these areas would be shared by Murdoch University and the Colleges. The Partridge Committee also indicated that it had reservations about the desirability of the Institute being involved with so many highly diverse academic programmes and put the view that the balance of teaching should not be allowed to shift heavily in favour of degree level and postgraduate courses. The Partridge Committee also recommended that the proposed

17. *Tertiary Education in Western Australia*, pp.2 - 4.

18. *Pre-School Education in Western Australia*, Report of the Inquiry conducted by W.E. Nott, S.M., into pre-school education in Western Australia, Perth: Government Printer, 1972, p.42.

Post Secondary Education Commission should initiate a study of the future development of the Institute especially with reference to the rate of growth in student numbers and enrolment ceilings within several schools.¹⁹

The Location of Institutions

- 2.28 The major campuses of all of the higher education institutions in Western Australia are located within the Perth metropolitan area and some of the institutions have subsidiary campuses within the metropolitan area. The Western Australian Institute of Technology also offers major courses in Agriculture at Muresk Agricultural College which is situated near the town of Northam. The Western Australian School of Mines, which is located in Kalgoorlie, is an integral part of the Institute's School of Mining and Mineral Technology which offers programmes in Engineering, Metallurgy and Geology. The location of the various major campuses within the Perth metropolitan area is detailed in Figure 2.1.

Student Enrolments

- 2.29 The distribution of equivalent full time students among the various fields of study at Murdoch University, The University of Western Australia, The Western Australian Institute of Technology and the Colleges in 1979 is detailed in Table 2.1. The table shows quite clearly the differences in scale and nature of the activities conducted by the various institutions. As mentioned previously, The University of Western Australia and The Western Australian Institute of Technology are large diversified institutions which offer courses in a variety of fields of study. Murdoch University, on the other hand, is much smaller and is dependent upon a more limited range of offerings. The dependence of the Colleges on Education and, to a lesser extent, Economics and Commerce, is also highlighted in Table 2.1.
- 2.30 The equivalent full time student numbers detailed in Table 2.1 give an indication of the numbers of students enrolled for major courses or programmes in the various fields of study. Table 2.2, which details student load by institution and by field of study, gives an indication of the teaching load carried by the departments, schools or faculties

19. *Post Secondary Education in Western Australia*, pp.139-141.

LOCATION OF HIGHER EDUCATION INSTITUTIONS IN THE PERTH METROPOLITAN AREA



SOURCE: MAIN ROADS DEPARTMENT

FIG 2.1

TABLE 2.1

EQUIVALENT FULL TIME STUDENTS^(a) BY INSTITUTION
AND BY FIELD OF STUDY^(a), 1979

Field of Study	Murdoch		UWA		WAIT		Colleges	
	No.	%	No.	%	No.	%	No.	%
Agriculture & Veterinary Science	232	14	226	3	164	2	..	..
Architecture	..	..	106	1	326	4	..	..
Art and Design	..	..	..	..	366	4	..	..
Economics and Commerce	na ^(b)	..	960 ^(d)	12	2111	26	632	11
Education	341	20	345	4	743	9	4876	85
Engineering	..	..	685	8	864	11	..	..
Health Sciences	..	..	854	10	1101	13	51	1
Humanities & Social Sciences	592 ^(c)	35	2591 ^(e)	32	1868	23	59	1
Law	..	..	396	5	..	..	..	..
Physical Education & Recreation	..	..	316	4	..	..	106	2
Science	422	25	1663	20	635	8	..	..
Miscellaneous Programmes	129	7	..	..	..	..	..	..
Total	1715	100	8141	100	8177	100	5723	100

Notes: (a) For definitions see Notes on Statistics.

(b) Included with Humanities and Social Sciences.

(c) Includes Economics and Commerce.

(d) Includes some Japanese Studies programmes.

(e) Some Japanese Studies programmes included with Economics and Commerce.

TABLE 2.2
STUDENT LOAD^(a) BY INSTITUTION
AND BY FIELD OF STUDY^(b), 1979

Field of Study	Murdoch		UWA		WAIT ^(c)		Colleges	
	No.	%	No.	%	No.	%	No.	%
Agriculture & Veterinary Science	220	13	237	3	141	2	..	..
Architecture	..	..	85	1	280	4	..	..
Art & Design	..	..	..	..	354	5	..	..
Economics & Commerce	53	3	1068	13	1800	25	632	11
Education	266	15	361	4	447	6	4876	85
Engineering	..	..	584	7	656	9	..	..
Health Sciences	..	..	1191	14	951	13	51	1
Humanities & Social Sciences	648	37	2657	31	1783	24	59	1
Law	..	..	396	5	..	..	..	..
Physical Education & Recreation	..	..	238	3	..	..	106	2
Science -								
Biological Sciences	274	16	320	4	119	2	..	..
Mathematics & Physical Sciences	268	15	1392	16	783	11	..	..
UWA Units	10	1	..	..	..	..	..	..
Total	1739	100	8529	100	7314	100	5723	100

Notes: (a) WSU's for universities, FTES for WAIT and EFTS for Colleges.

(b) For definitions see Notes on Statistics.

(c) Estimate.

which constitute the various fields of study. The student load figures for a particular field of study include, therefore, the load generated by service units offered for students majoring in other fields of study. The data contained in Table 2.2 are shown graphically in Figure 2.2.

- 2.31 Table 2.3 details total enrolments at the various institutions by mode of enrolment. It indicates quite clearly Murdoch University's major involvement in external studies.

TABLE 2.3
TOTAL ENROLMENTS BY INSTITUTION AND BY MODE
OF ENROLMENT, 1979

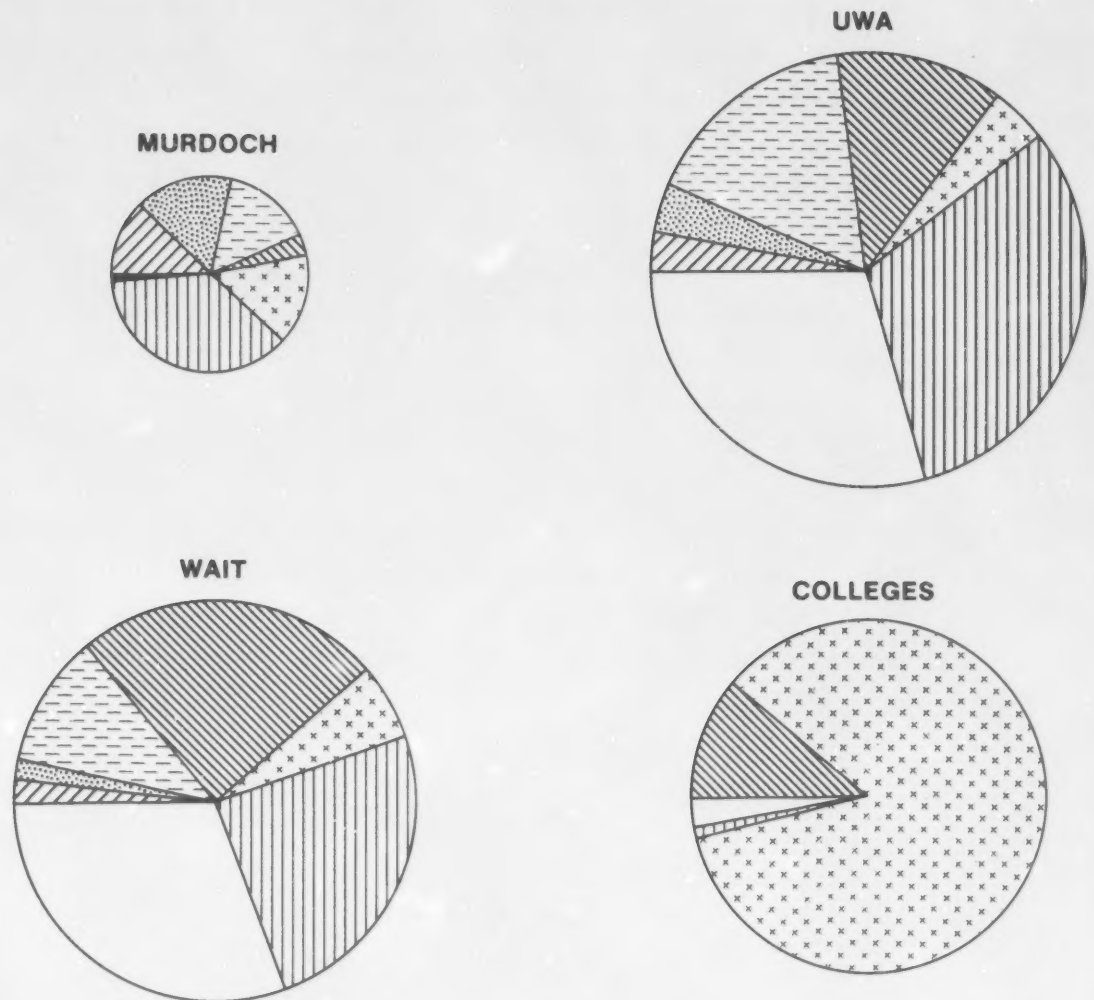
Institution	F.T.		P.T.		Ext.		Total	
	No.	%	No.	%	No.	%	No.	%
Murdoch	1069	45	507	21	785	33	2361	100
UWA	6536	67	3177	33	32	-	9745	100
WAIT	4978	43	5115	45	1282	11	11375	100
Colleges	3722	47	3365	42	899	11	7986	100
Total	16305	52	12164	39	2998	10	31467	100

- 2.32 Table 2.4 details total enrolments at the various institutions by sex. The table shows that Murdoch University has a somewhat higher proportion of female students than The University of Western Australia and The Western Australian Institute of Technology and this is perhaps explained by the absence of fields of study such as Commerce, Engineering and Law which tend to attract a higher proportion of male students.

TABLE 2.4
TOTAL ENROLMENTS BY INSTITUTION AND BY SEX, 1979

Institution	Male		Female		Total	
	No.	%	No.	%	No.	%
Murdoch	1 225	52	1 136	48	2 361	100
UWA	5 949	61	3 796	39	9 745	100
WAIT	6 983	61	4 392	39	11 375	100
Colleges	2 962	37	5 024	63	7 986	100
Total	17 119	54	14 438	46	31 467	100

STUDENT LOAD BY INSTITUTION AND FIELD OF STUDY, 1979



LEGEND

	Agriculture and Veterinary Science		Education
	Biological Sciences		Humanities and Social Sciences
	Maths and Physical Sciences		UWA Units
	Economics and Commerce		Other

Note: (a) The area of the circles is in proportion to the student load of each institution.
 (b) Student load is measured in terms of WSU's for universities, FTES for WAIT and EFTS for Colleges.
 (c) For definitions of fields of study see Notes on Statistics.

FIG 2.2

Admissions Procedures and New Students

- 2.33 Students who wish to enrol in the first year of an undergraduate course at one of the higher education institutions in Western Australia are required to submit an application form to the Tertiary Institutions Service Centre (hereinafter referred to as TISC), an organisation established by the institutions to run the Tertiary Admissions Examination and also to operate a joint application system which involves the processing of applications for places in the first year of undergraduate courses. The joint application system enables applicants for undergraduate places to list up to four preferences for courses at various institutions on one form and ensures that an offer of admission is made for the highest preference course in which there is a place available and for which an applicant is qualified. The closing date for the submission of applications is generally towards the end of September in the year prior to enrolment although there are opportunities for the submission of late applications and changes of preferences. Most offers of admission are made towards the middle of January and some additional offers are made at the beginning of February.
- 2.34 Students enter institutions with a variety of academic backgrounds as illustrated by Table 2.5 which shows students commencing courses by institution and by highest qualification on commencement for the year 1979. The figures are a little difficult to compare as they include all students commencing courses at The Western Australian Institute of Technology and the Colleges but are restricted to students commencing bachelor's degrees at the universities. A number of clear trends emerge, however. Students who completed final school examinations in Australia in the previous year or one year ago constituted 57 per cent of the students who commenced courses at The University of Western Australia and 47 per cent of the students who commenced courses at The Western Australian Institute of Technology in 1979. Murdoch University, on the other hand, attracted only 19 per cent of its students from this pool while the Colleges attracted some 31 per cent from the school leaver pool. Murdoch attracted a significantly larger proportion of students who had completed final school examinations in Australia more than one year ago or who held "other" qualifications. The "other" category includes students admitted under special conditions such as adult or mature age matriculation as well as students with qualificat-

ions other than those listed in the table. In 1979 Murdoch University attracted a somewhat higher than average proportion of students with overseas qualifications. However, only 10 of the 68 students admitted came directly from Asian or African countries while the remainder held qualifications from a variety of other countries.

TABLE 2.5

COMMENCING STUDENTS^(a) BY INSTITUTION AND BY HIGHEST
QUALIFICATION ON COMMENCEMENT, 1979

Highest Qualification	Murdoch		UWA		WAIT		Colleges		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or Colleges of Advanced Education	222	33	563	21	1 336	31	1 626	49	3 747	34
Final School Exams in Australia in Previous Year or One Year Ago	123	19	1 489	57	2 030	47	1 033	31	4 675	43
Final School Exams in Australia More Than One Year Ago	124	19	211	8	251	6	131	4	717	7
Overseas Qualification	68	10	151	6	244	6	142	4	605	6
Other	126	19	207	8	290	7	419	13	1 042	10
Unknown	..	..	..	..	158	4	..	..	158	1
Total	663	100	2 621	100	4 309	100	3 351	100	10 944	100

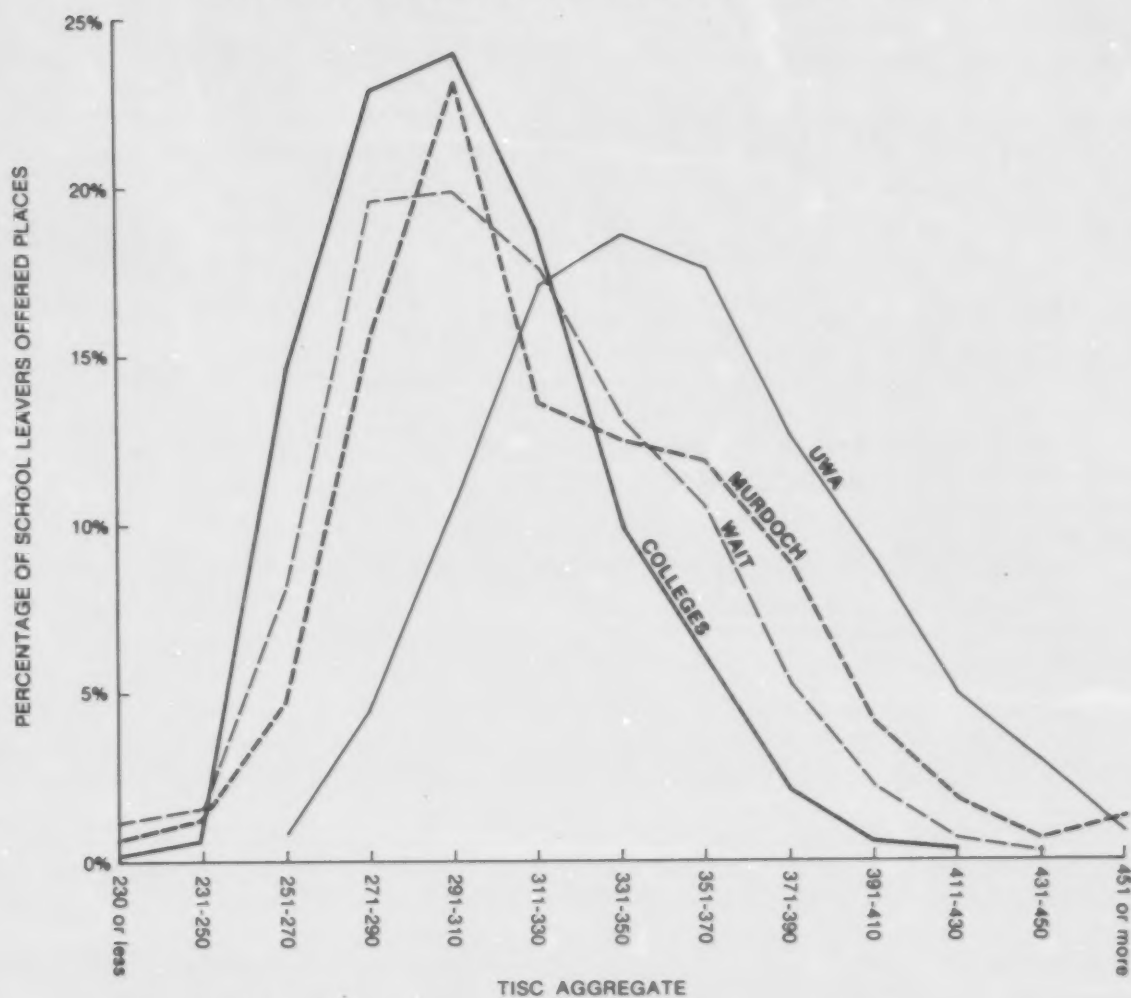
Note: (a) Students commencing bachelor's degree courses at universities and all courses at colleges of advanced education.

- 2.35 It is very difficult to make a reasonable assessment of the relative academic quality of students entering the various higher education institutions in Western Australia. In the first place it is not possible to compare in any quantitative way the entry scores of students who qualify for entry on the basis of qualifications other than the final school examination (the Tertiary Admissions Examination) completed in Western Australia. In the case of students who have completed the Tertiary Admissions Examination, difficulties arise in making comparisons as there have been some changes in the examination over the years and as different institutions use different components of the final school

examination to calculate entry scores. TISC has made available to the Committee some information relating to students who completed the Tertiary Admissions Examination in 1978 and were offered places in institutions through the TISC system. This information is shown graphically in Figure 2.3. As might be expected, the long established, large and diversified University of Western Australia attracts larger proportions of the more able school leaver groups than the other institutions. It needs to be borne in mind in interpreting this figure that the various institutions draw very different proportions of their students from the school leaver pool. As Table 2.5 shows, only 19 per cent of the students who commenced courses at Murdoch University in 1979 completed final school examinations in Australia the previous year or one year ago. The comparable figure for other institutions in the same year was 31 per cent for the Colleges, 47 per cent for The Western Australian Institute of Technology and 57 per cent for The University of Western Australia.

- 2.36 It is also very difficult to discover any hard data about relative levels of student demand for places in institutions. The various institutions have somewhat different admissions systems and policies, and procedures regarding admissions have changed over the years. Murdoch University has provided the Committee with details for all institutions of proportions of first preference applications for places for each of the years 1976 to 1979 and this information is reproduced in Table 2.6. As the table shows, the proportion of first preference applications for places at Murdoch University has declined over the period, the proportion of first preference applications for places at the Colleges declined in 1977 and has since stabilised, the proportion of first preference applications for places at The University of Western Australia has remained relatively stable, and the proportion of first preference applications for places at The Western Australian Institute of Technology has increased.

OFFERS MADE THROUGH THE TISC SYSTEM TO SCHOOL LEAVERS FOR ADMISSION TO HIGHER EDUCATION INSTITUTIONS IN 1979, GROUPED ACCORDING TO TISC AGGREGATE CALCULATED USING RESULTS FROM THE 1978 TERTIARY ADMISSIONS EXAMINATION.



SOURCE: TISC

FIG 2.3

TABLE 2.6
 PROPORTIONS OF FIRST PREFERENCE APPLICATIONS FOR
 PLACES AT HIGHER EDUCATION INSTITUTIONS
 1976-79

Institution	Proportion of First Preference Applications for Places			
	1976	1977	1978	1979
Murdoch	14	11	10	9
UWA	27	26	26	27
WAIT	35	42	43	43
Colleges	24	21	21	21
Total	100	100	100	100

Source: Murdoch University Submission.

The Pattern of Growth

2.37 The various institutions which constitute the higher education system in Western Australia have experienced somewhat different patterns of growth over the last few years. Table 2.7 details equivalent full time students by institution for 1970 and for the years 1975 to 1979. As the table indicates, major growth took place within the period 1970 to 1975 with The University of Western Australia increasing by some 30 per cent and The Western Australian Institute of Technology and the Colleges more than doubling in size. In contrast, growth within the period 1975 to 1979 has been fairly limited. Equivalent full time student numbers have fallen by 1 per cent at The University of Western Australia and have increased by 18 per cent at The Western Australian Institute of Technology, and 22 per cent at the Colleges. Murdoch University, which started from a very small base in 1975, grew by some 200 per cent over the period and, in fact, accounted for some 35 per cent of the growth in the system as a whole.

TABLE 2.7
EQUIVALENT FULL TIME STUDENTS^(a) BY INSTITUTION,
1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	(b) 566(48)	(b) 1 144(56)	(b) 1 481(87)	(b) 1 728(164)	(b) 1 715(129)
UWA	6 389	8 239	8 135	8 312	8 227	8 141
WAIT	3 432	6 955	7 810	7 931	8 058	8 177
Colleges	2 100 ^(c)	4 697	5 116	5 357	5 309	5 723
Total	11 921	20 457	22 204	23 080	23 321	23 755

- Notes: (a) For definitions see Notes on Statistics.
 (b) The figures in brackets are included within the respective total figures. They relate to students enrolled for General Studies, Programme Choice Deferred, or UWA Units. The figures are not attributable to any of the fields of study detailed in Tables 2.8 to 2.13.
 (c) Estimate.

2.38 While there have been quite major differences in the growth rates experienced by the institutions over the periods 1970 to 1975 and 1975 to 1979, there have also been substantial differences in the rates of growth of the various fields of study within institutions. Tables 2.8 to 2.13 detail equivalent full time students in a number of fields of study by institution for the years 1970 and 1975 to 1979. These data, also subdivided into a number of categories of level of course, are shown graphically in Figures 2.4 to 2.9 for Murdoch University, The University of Western Australia and The Western Australian Institute of Technology.

2.39 Table 2.8 indicates quite clearly the popularity of Murdoch's Veterinary Science programme in which student numbers have increased consistently over the period 1975 to 1979. The Committee understands that demand for places is high, and this is reflected in the entry scores of successful applicants.

TABLE 2.8
EQUIVALENT FULL TIME STUDENTS^(a) IN AGRICULTURE AND
VETERINARY SCIENCE^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	32	98	148	188	232
UWA	225	158	159	194	217	226
WAIT	46	116	144	131	159	164
Colleges	..	..	..	..	..	..
Total	271	305	400	472	564	622

Note: (a) For definitions see Notes on Statistics

2.40 The data on which this series of tables are based are derived from returns provided by institutions to the Commonwealth Tertiary Education Commission. These data are not particularly detailed and do not, in all cases, identify students by programme. This is the case with Murdoch University's Economics programme and, accordingly, Table 2.9 only details equivalent full time students in Economics and Commerce at The University of Western Australia, The Western Australian Institute of Technology and Churchlands College. As the table indicates, Economics and Commerce is one of the major components of the higher education system in Western Australia. The Western Australian Institute of Technology's operation is particularly large and, in addition, there has been substantial growth at Churchlands College since 1976.

TABLE 2.9
EQUIVALENT FULL TIME STUDENTS^(a) IN ECONOMICS AND
COMMERCE^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch (b)	..	n.a.	n.a.	n.a.	n.a.	n.a.
UWA	749	1 062	1 085	1 050	956	960
WAIT	913	1 951	2 095	2 096	2 071	2 111
Colleges	..	..	148	342	529	632
Total	1 662	3 013	3 327	3 488	3 555	3 703

Notes: (a) For definitions see Notes on Statistics.

(b) Included with Humanities and Social Sciences. See Table 3.13 for details.

2.41 Table 2.10 shows that major growth in the numbers of students undertaking courses in Education took place between 1970 and 1976 but, since then, overall numbers have remained relatively stable. Within the total picture, however, it is noticeable that equivalent full time student numbers at The University of Western Australia have fallen progressively since 1975 and that there was a quite marked reduction in numbers at Murdoch University in 1979.

TABLE 2.10
EQUIVALENT FULL TIME STUDENTS^(a) IN EDUCATION^(a)
BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	.. (b)	118	262	363	396	341
UWA	456	693	507	434	362	345
WAIT	..	477	628	675	707	743
Colleges	2 100 ^(c)	4 603	4 838	4 841	4 597	4 876
Total	2 556	5 890	6 234	6 312	6 060	6 305

Notes: (a) For definitions see Notes on Statistics.

(b) Includes Physical Education and Recreation.

(c) Estimate.

2.42 Table 2.11 details student numbers in courses in the Humanities and Social Sciences. It highlights the substantial growth that took place within the system, and particularly at The Western Australian Institute of Technology, between 1970 and 1975. The table also shows a steady increase in the number of students in programmes at Murdoch University and a fall in numbers at The University of Western Australia since 1977.

TABLE 2.11

EQUIVALENT FULL TIME STUDENTS^(a) IN HUMANITIES AND
SOCIAL SCIENCES^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch (b)	..	256	486	542	571	592
UWA	2 061	2 803	2 787	2 800	2 748	2 591
WAIT	398	1 665	1 844	1 862	1 835	1 868
Colleges	..	..	22	38	53	59
Total	2 459	4 724	5 138	5 242	5 206	5 110

Notes: (a) For definitions see Notes on Statistics.

(b) Includes Economics and Commerce.

2.43 Equivalent full time student numbers in Science programmes are detailed in Table 2.12. There has been little growth in numbers at the Western Australian Institute of Technology since 1976 but quite substantial growth at The University of Western Australia during the same period. Murdoch University has experienced modest growth in this area.

TABLE 2.12

EQUIVALENT FULL TIME STUDENTS^(a) IN SCIENCE^(a)
BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	113	243	342	410	422
UWA	1 275	1 297	1 316	1 460	1 551	1 663
WAIT	465	549	607	613	635	635
Colleges	..	..	..	..	..	..
Total	1 740	1 959	2 165	2 414	2 596	2 720

Note: (a) For definitions see Notes on Statistics.

2.44 Substantial growth has taken place in student numbers in other fields of study offered by The Western Australian Institute of Technology since 1970 and this is shown in Table 2.13. Student numbers in other fields of study at The University of Western Australia grew quite rapidly between 1970 and 1975, but there has been only limited growth since then.

TABLE 2.13

EQUIVALENT FULL TIME STUDENTS^(a) IN OTHER FIELDS OF STUDY^(a)
BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	..	..	..	..	..
UWA	1 624	2 227	2 282	2 375	2 393	2 356
WAIT	1 611	2 198	2 494	2 556	2 653	2 656
Colleges	..	95	109	136	131	157
Total	3 235	4 519	4 885	5 067	5 177	5 168

Note: (a) For definitions see Notes on Statistics.

2.45 While there have been changes in the overall numbers of students in the various fields of study over the period 1970 to 1979 there have also been quite substantial changes in the proportions of students in courses at various levels. Tables 2.14 to 2.17 detail equivalent full time students by level of course for Murdoch University, The University of Western Australia, The Western Australian Institute of Technology and

EQUIVALENT FULL TIME STUDENTS (a) IN AGRICULTURE AND VETERINARY SCIENCE (a)

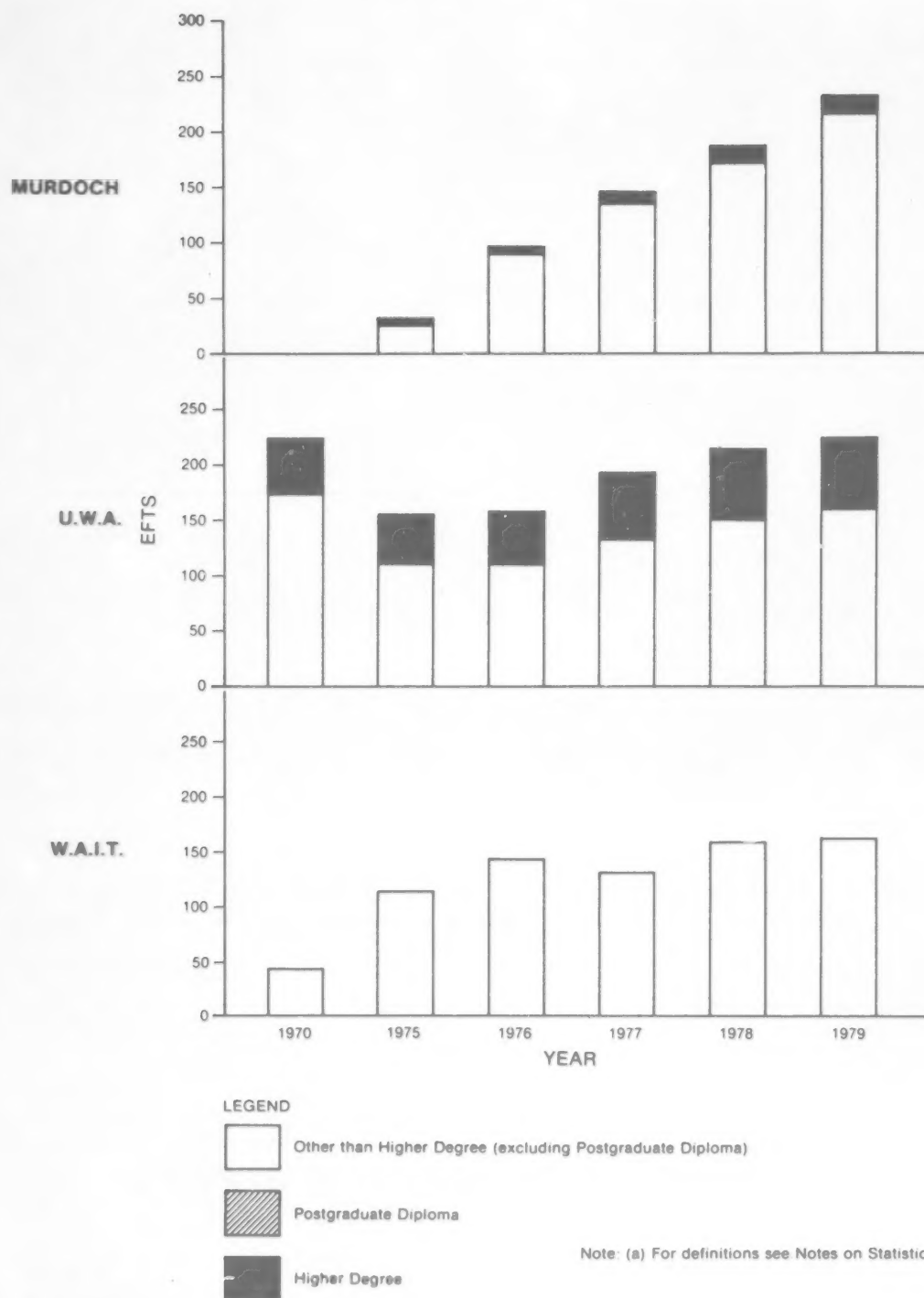


FIG 2.4

EQUIVALENT FULL TIME STUDENTS (a) IN ECONOMICS AND COMMERCE (a)

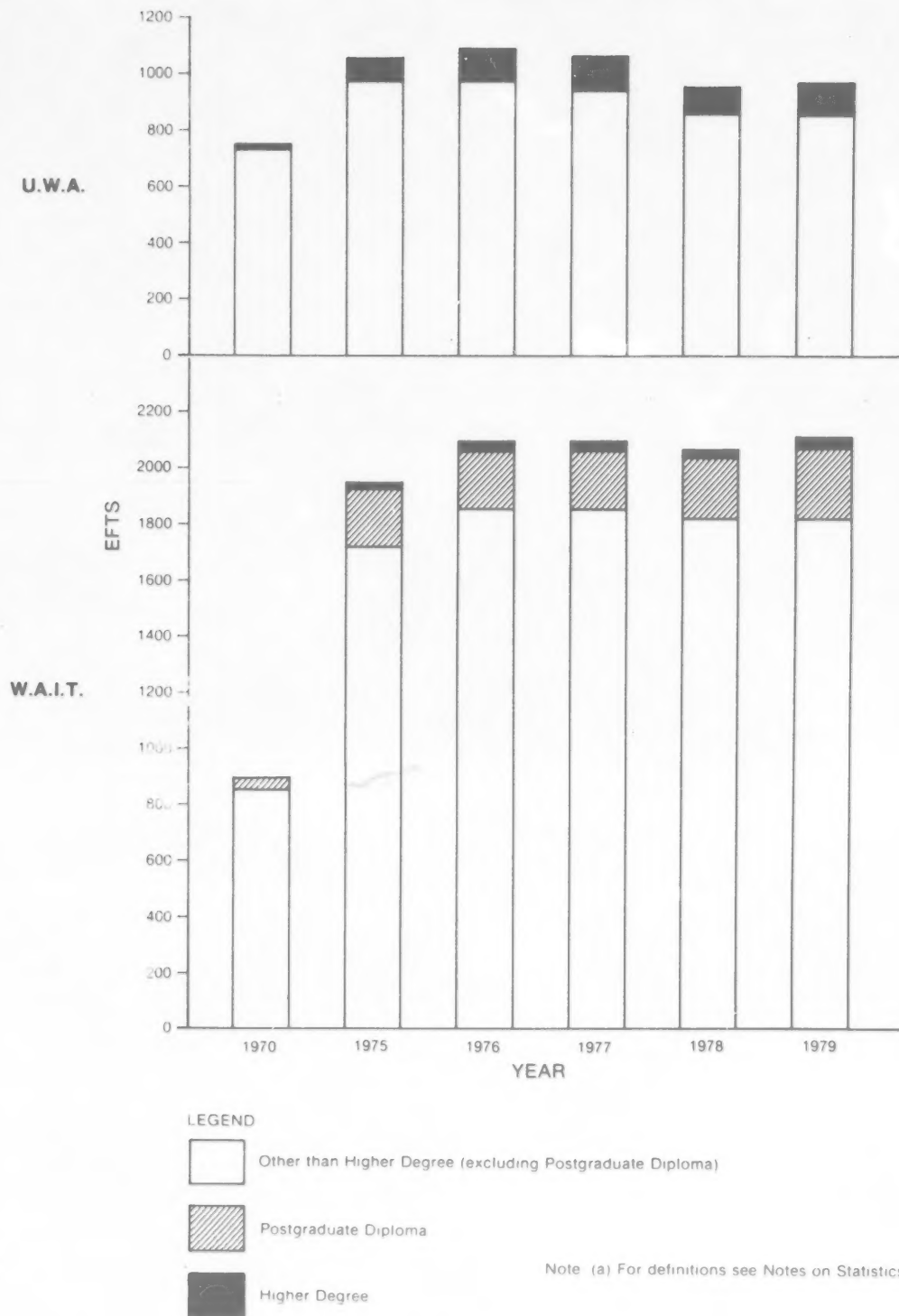


FIG 2.5

EQUIVALENT FULL TIME STUDENTS (a) IN EDUCATION (a)

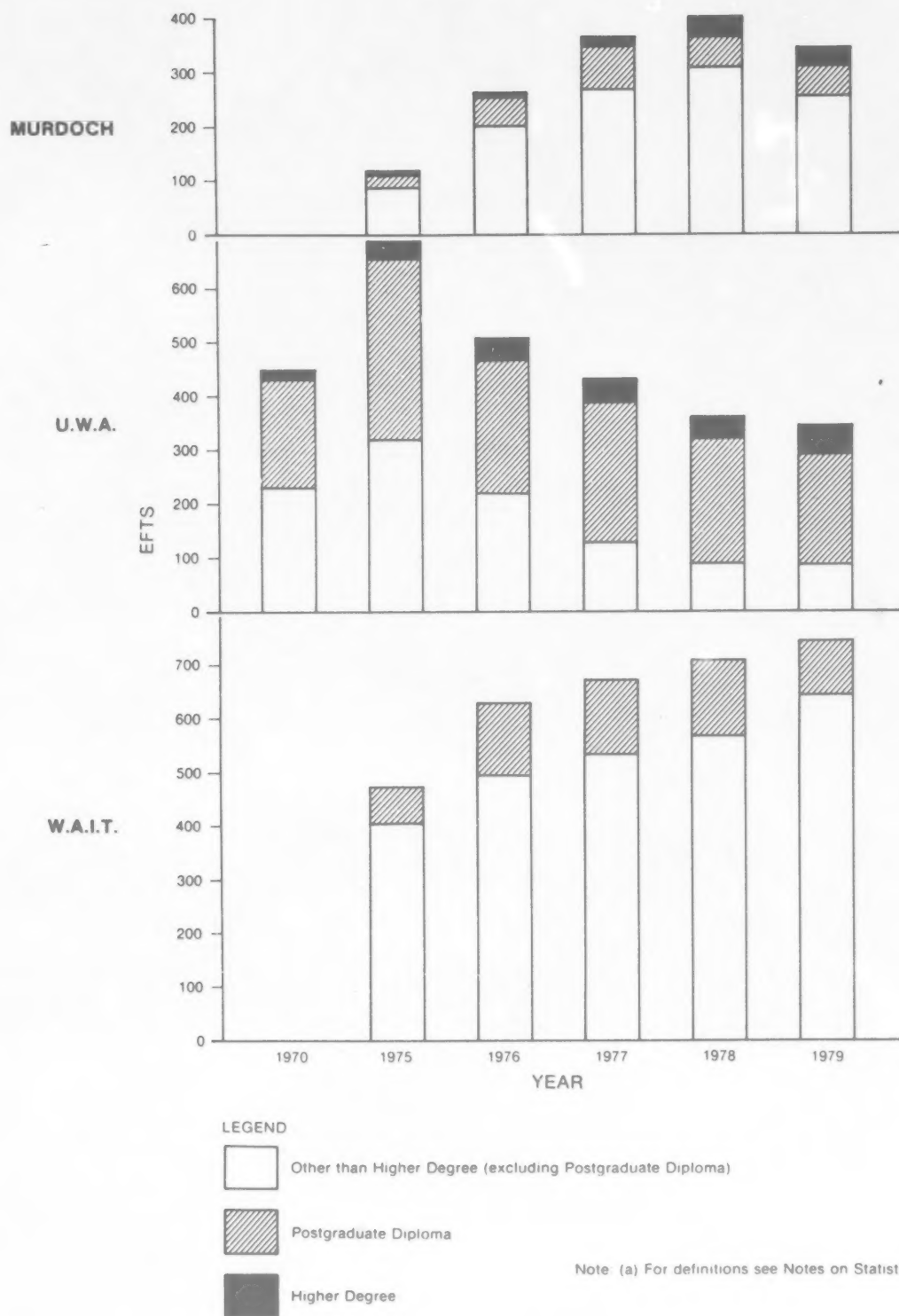


FIG 2.6

EQUIVALENT FULL TIME STUDENTS (a) IN HUMANITIES AND SOCIAL SCIENCES (a)

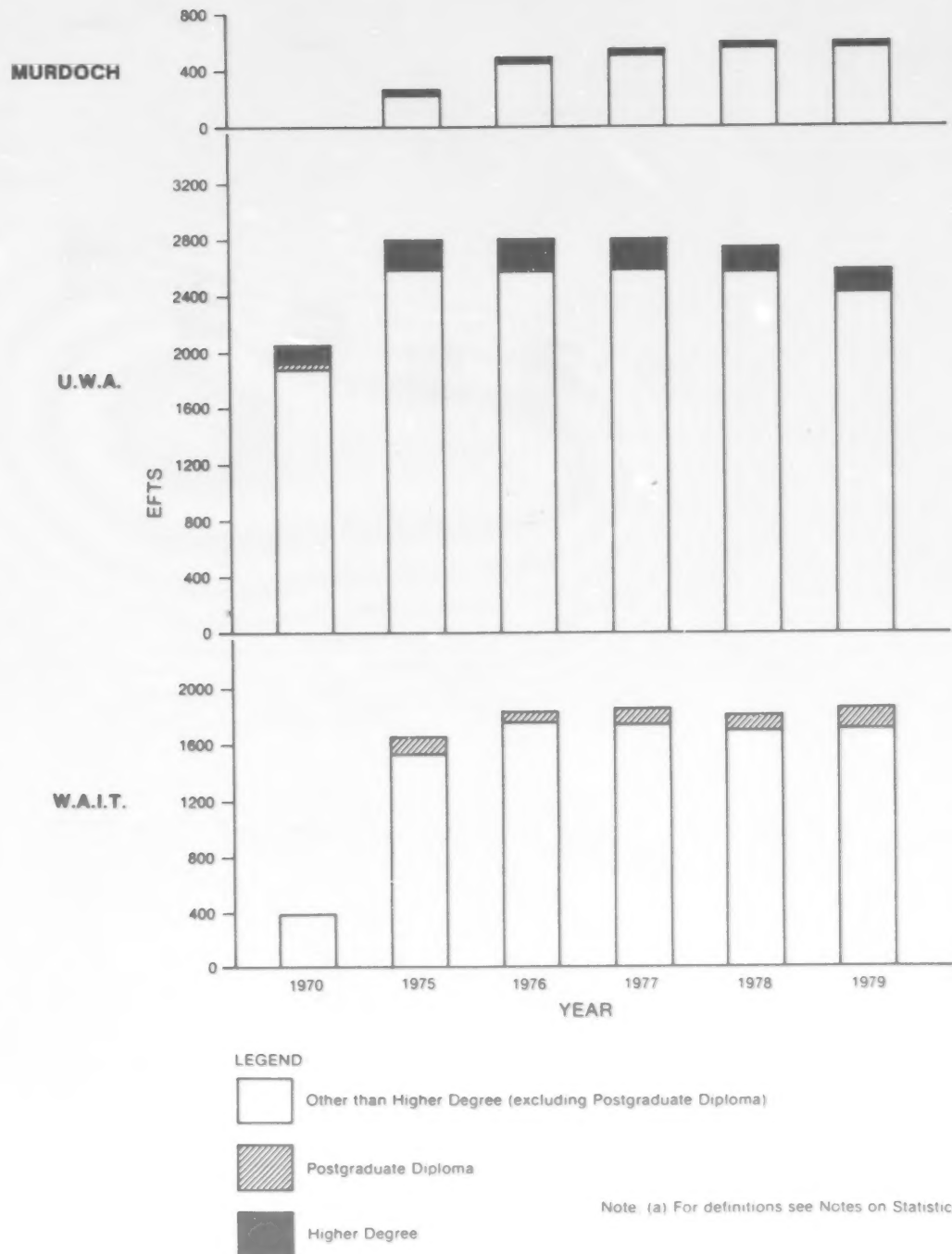


FIG 2.7

EQUIVALENT FULL TIME STUDENTS (a) IN SCIENCE (a)

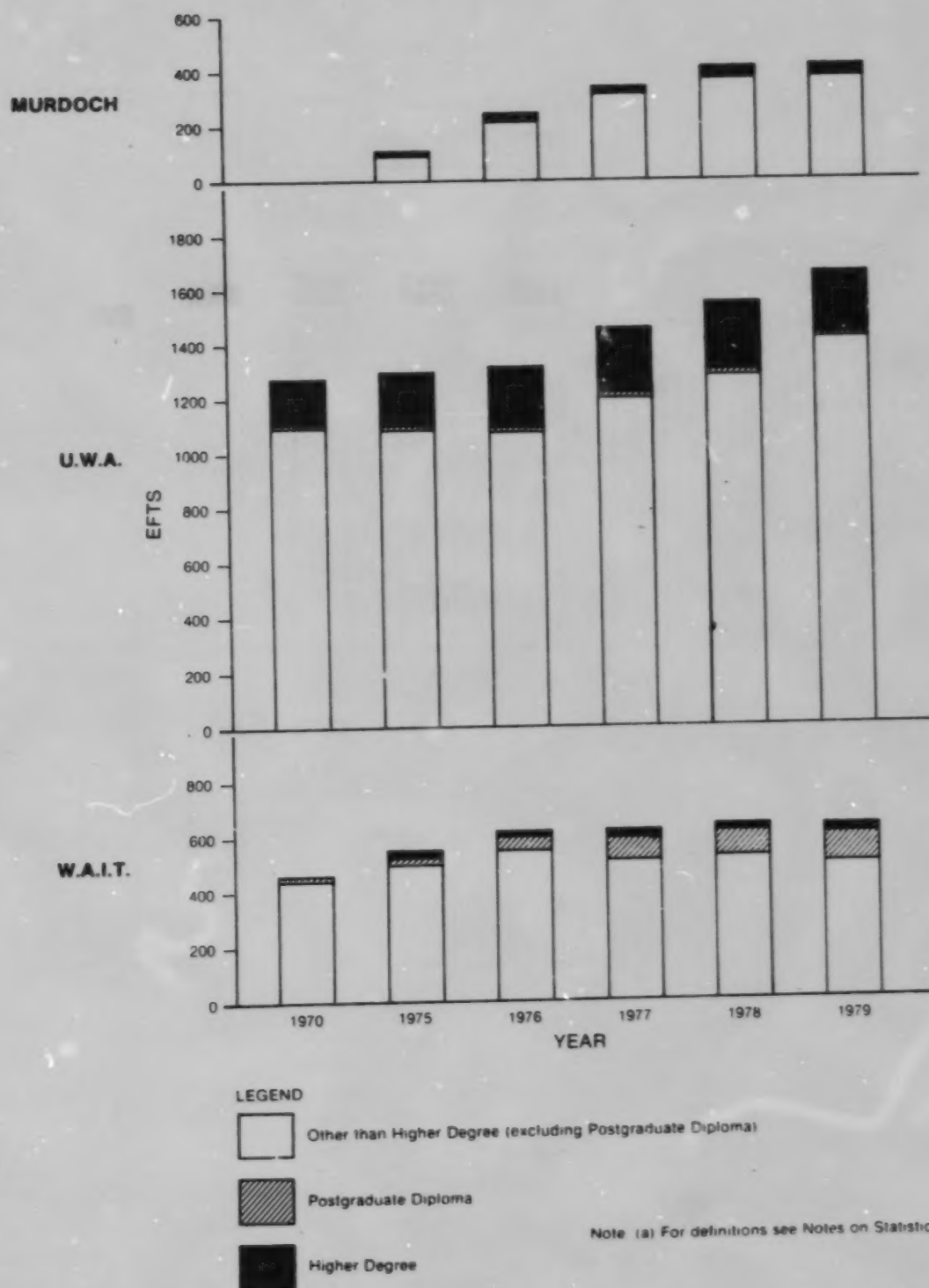


FIG 2.8

EQUIVALENT FULL TIME STUDENTS (a) IN OTHER FIELDS OF STUDY (a)

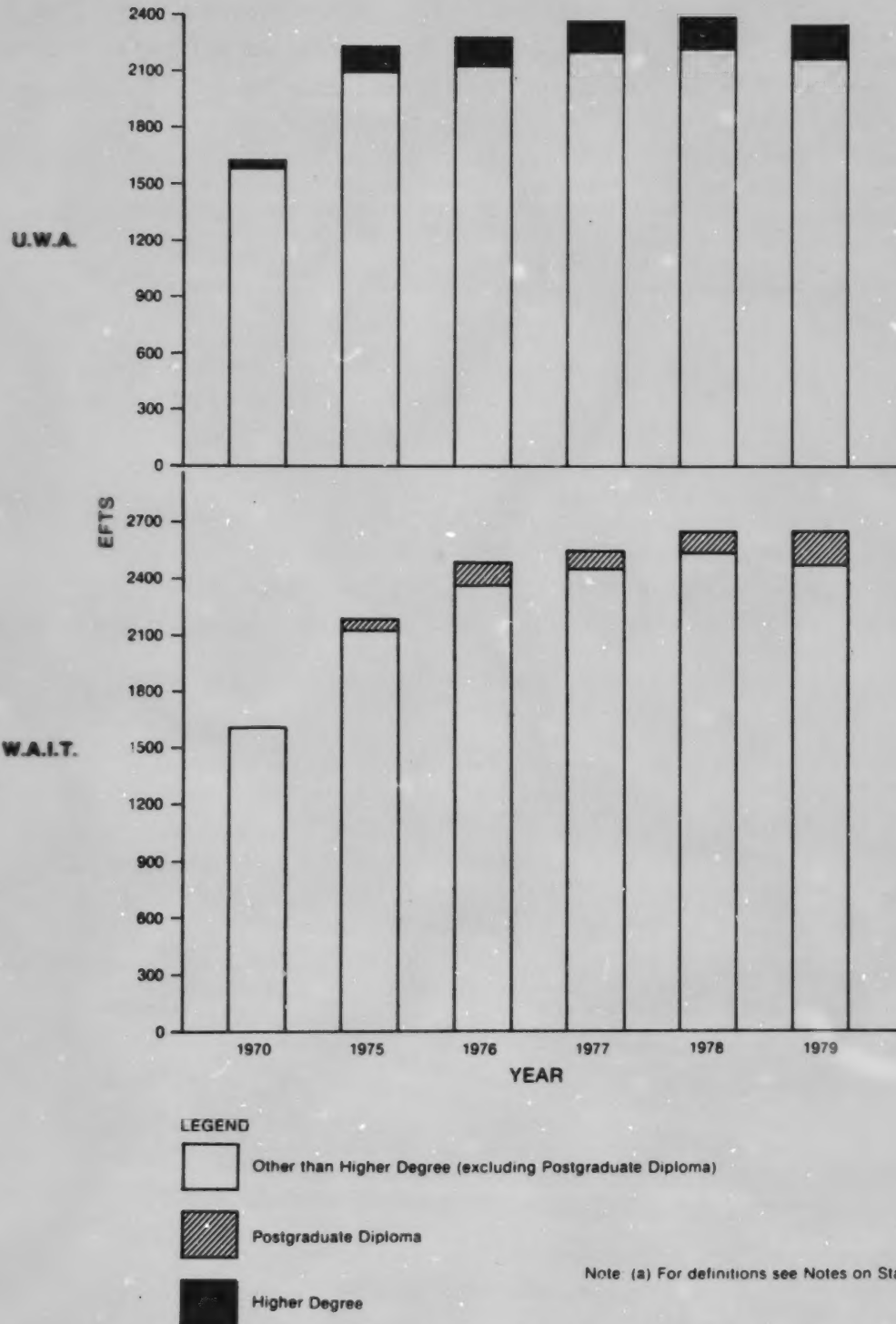


FIG 2.9

the Colleges for 1970 and 1975 to 1979. Tables 2.14 and 2.15 show the increasing role the two Universities and The Western Australian Institute of Technology are playing in the higher degree field and the increasing importance of postgraduate diploma and bachelor's degree enrolments in the advanced education sector.

TABLE 2.14
EQUIVALENT FULL TIME STUDENTS^(a) BY LEVEL OF COURSE^(a),
MURDOCH UNIVERSITY, 1975-79

Level of Course	Equivalent Full Time Students				
	1975	1976	1977	1978	1979
Other than Higher Degree ^(b)	509	1044	1342	1562	1543
Postgraduate Diploma	26	55	74	63	54
Higher Degree	31	46	66	103	119
Total	566	1144	1481	1727	1715

Notes: (a) For definition see Notes on Statistics.

(b) Excluding postgraduate diploma courses but including Ph.D and master's preliminary courses, honours and pass degree courses, and miscellaneous subject enrolments.

TABLE 2.15
EQUIVALENT FULL TIME STUDENTS^(a) BY LEVEL OF COURSE^(a),
THE UNIVERSITY OF WESTERN AUSTRALIA, 1970 AND 1975-79

Level of Course	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Other than Higher Degree ^(b)	5 735	7 230	7 142	7 243	7 204	7 154
Postgraduate Diploma	244	349	262	275	241	208
Higher Degree	410	660	732	794	782	780
Total	6 389	8 239	8 135	8312	8 227	8 141

Notes: (a) For definitions see Notes on Statistics

(b) Excluding postgraduate diploma courses but including Ph.D and master's preliminary courses, postgraduate bachelor's degree courses, honours and pass degree courses and miscellaneous subject enrolments.

TABLE 2.16
EQUIVALENT FULL TIME STUDENTS^(a) BY LEVEL OF COURSE^(a),
THE WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY, 1970 AND 1975-79

Level of Course	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Associate Diploma ^(b)	121	315	366	343	391	415
Diploma	3 244	2 599	1 995	1 651	1 097	654
Degree	..	3 514	4 833	5 261	5 836	6 292
Postgraduate Diploma	67	492	577	632	689	741
Higher Degree	..	36	39	45	45	76
Total	3 432 ^(c)	6 955	7 810	7 931	8 058	8 177

Notes: (a) For definitions see Notes on Statistics.

(b) Includes some courses which do not fit within the specified categories.

(c) The allocation of courses to categories may not conform with practice for 1975-1979.

TABLE 2.17
EQUIVALENT FULL TIME STUDENTS^(a) BY LEVEL OF COURSE^(a),
COLLEGES, 1970 AND 1975-79

Level of Course	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Associate Diploma ^(b)	n.a.	279	237	266	267	273
Diploma	n.a.	4 195	4 439	4 166	3 673	3 512
Degree	..	..	148	561	1 005	1 478
Postgraduate Diploma	..	224	293	365	366	460
Higher Degree	..	..	..	..	..	..
Total	2 100	4 697	5 116	5 357	5 309	5 723

Notes: (a) For definitions see Notes on Statistics.

(b) Includes some courses which do not fit within the specified categories.

2.46 Tables 2.18 to 2.24 show equivalent full time higher degree students by institution and by field of study for 1970 and 1975 to 1979. It is noticeable from these tables that The Western Australian Institute of Technology's involvement in higher degree studies is concentrated in Economics and Commerce, Science and "Other" fields of study and it is only in the Science field that any significant overlap occurs with Murdoch University.

TABLE 2.18
EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) BY INSTITUTION,
1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch		31	46	66	103	119
UWA	410	660	732	794	782	780
WAIT	..	36	39	45	45	76
Colleges	..	..	..	..	..	..
Total	410	727	817	905	930	974

Notes: (a) For definitions see Notes on Statistics.

TABLE 2.19
EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) IN AGRICULTURE
AND VETERINARY SCIENCE^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	5	6	11	15	13
UWA	50	47	48	60	66	66
WAIT	..	..	..	..	..	..
Colleges	..	..	..	..	..	..
Total	50	51	54	70	81	78

Notes: (a) For definitions see Notes on Statistics.

TABLE 2.20

EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) IN ECONOMICS
AND COMMERCE^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch ^(b)	..	n.a.	n.a.	n.a.	n.a.	n.a.
UWA	11	82	101	103	95	103
WAIT	..	21	26	26	27	33
Colleges	..	..	..	..	..	..
Total	11	103	127	129	121	136

Notes: (a) For definitions see Notes on Statistics.

(b) Included with Humanities and Social Sciences. See Table 3.13 for details.

TABLE 2.21

EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) IN EDUCATION^(a)
BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	2	6	17	27	32
UWA	20	34	38	42	41	51
WAIT	..	..	..	..	..	..
Colleges	..	..	..	..	..	..
Total	20	36	44	59	67	83

Notes: (a) For definitions see Notes on Statistics.

TABLE 2.22

EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) IN HUMANITIES
AND SOCIAL SCIENCES^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	12	15	14	21	32
UWA	130	182	184	186	172	160
WAIT	..	..	..	..	..	..
Colleges	..	..	..	..	..	..
Total	130	194	199	200	192	192

Notes: (a) For definitions see Notes on Statistics.

TABLE 2.23

EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) IN SCIENCE^(a)
BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	13	19	25	41	43
UWA	167	195	222	244	252	245
WAIT	..	16	13	19	19	33
Colleges	..	..	..	..	..	..
Total	167	223	254	287	312	321

Notes: (a) For definitions see Notes on Statistics.

TABLE 2.24

EQUIVALENT FULL TIME HIGHER DEGREE STUDENTS^(a) IN OTHER FIELDS
OF STUDY^(a) BY INSTITUTION, 1970 AND 1975-79

Institution	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Murdoch	..	..	..	..	..	..
UWA	34	121	139	160	158	156
WAIT	..	..	..	..	..	10
Colleges	..	..	..	..	..	..
Total	34	121	139	160	158	166

Notes: (a) For definitions see Notes on Statistics.

2.47 Tables 2.25 and 2.26 detail equivalent full time postgraduate diploma students by field of study at The Western Australian Institute of Technology and the Colleges. The Committee has noted that many of the postgraduate diploma courses offered by the Institute and the Colleges are postgraduate in nature as well as in time and that, in fact, the Institute regards some of its postgraduate diplomas as the first stage of master's degree programmes.

TABLE 2.25

EQUIVALENT FULL TIME POSTGRADUATE DIPLOMA STUDENTS^(a) BY
FIELD OF STUDY^(a), THE WESTERN AUSTRALIAN INSTITUTE OF
TECHNOLOGY, 1970 AND 1975-79

Field of Study	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Agriculture & Veterinary Science	..	..	..	..	..	..
Economics & Commerce	58	207	204	211	217	252
Education	..	72	130	140	136	98
Humanities & Social Sciences	..	124	83	107	126	131
Science	9	26	45	79	94	106
Other	..	64	116	97	118	155
Total	67	492	577	632	689	741

Note: (a) For definitions see Notes on Statistics.

TABLE 2.26
EQUIVALENT FULL TIME POSTGRADUATE DIPLOMA STUDENTS^(a) BY
FIELD OF STUDY^(a), COLLEGES, 1970 AND 1975-79

Field of Study	Equivalent Full Time Students					
	1970	1975	1976	1977	1978	1979
Education	..	212	274	350	353	442
Other	..	12	19	15	13	19
Total	..	224	293	365	366	460

Note: (a) For definitions see Notes on Statistics.

Student Load in the 1979-81 Triennium

- 2.48 The general recurrent grants provided for higher education institutions are, to a large extent, based on planned student load figures which are determined by the Tertiary Education Commission and its Councils following consultation with institutions and/or state coordinating authorities such as the Western Australian Post Secondary Education Commission.
- 2.49 For the 1979-81 triennium each university has been provided with a total student load range within which it may adjust its enrolment balance subject only to upper limits for research and coursework higher degree student load. The student load guidelines laid down for Murdoch University and The University of Western Australia for the 1979-81 triennium are shown in Table 2.27.

TABLE 2.27

PROPOSED UNIVERSITY STUDENT LOAD (WSU's),
WESTERN AUSTRALIA, 1979-81

Institution	Year	Total Student Load		Higher Degree Student Load	
		Min.	Max.	Research Max.	Coursework Max.
Murdoch	1979	1 800	1 900	150	75
	1980	1 900	2 000	175	100
	1981	1 925	2 025	190	125
UWA	1979	8 575	8 725	1 150	475
	1980	8 575	8 725	1 150	475
	1981	8 575	8 725	1 150	475
Total	1979	10 375	10 625	1 300	550
	1980	10 475	10 725	1 325	575
	1981	10 500	10 750	1 340	600

Source: Universities Council.

- 2.50 Colleges of advanced education have been provided with a single student load target figure for each of the years 1979-81 but actual student load may vary between plus and minus one per cent of the target figures without affecting funding levels within the triennium. The target figures for the 1979-81 triennium are shown in Table 2.28.

TABLE 2.28

PROPOSED ADVANCED EDUCATION STUDENT LOAD (EFTS),
WESTERN AUSTRALIA, 1979-81

Institution	1979	1980	1981
WAIT	8 170	8 255	8 335
Colleges	5 675	5 813	5 815
Total	13 845	14 068	14 150

Source: Western Australian Post Secondary Education Commission.

- 2.51 As Table 2.27 shows, there will be no planned growth in student load at The University of Western Australia over the triennium, while student load at Murdoch University is planned to increase by some 125 WSU's, mostly at the higher degree level. In the advanced education sector, increases amounting to some 165 EFTS at The Western Australian Institute of Technology and 140 EFTS at the Colleges are planned. The Committee understands that the increases in student load planned for The Western Australian Institute of Technology include an allowance of some 80 EFTS to provide for a possible increase in the intake into the pre-service nursing course while the bulk of the planned increase at the Colleges is earmarked for expansion of the Churchlands College Business Studies programme.

Committee Observations

- 2.52 A number of significant issues emerge from the analysis contained in this chapter and in Appendix C. In the first place, the *growth in student numbers at Murdoch University* from 566 equivalent full time students in 1975 to 1 715 equivalent full time students in 1979 represents a remarkable achievement, particularly given the relatively limited range of courses that the University offers. The growth in higher degree student numbers from 31 equivalent full time students in 1975 to 119 equivalent full time students in 1979 is indicative of an active research and postgraduate study programme in most fields of study. The growth in other than higher degree and postgraduate diploma enrolments from 535 equivalent full time students in 1975 to 1 625 equivalent full time students in 1978 shows healthy increases which reflect, in part, the flow through of students into later years of programmes. However, the pattern of growth ceased in 1979 with a marginal fall in equivalent full time other than higher degree and postgraduate diploma students and virtually no increase in student load.
- 2.53 The pattern of growth at Murdoch University is discussed in more detail in Chapter 3 of this report. It is worth noting at this stage, however, that *Murdoch University was not the only University to suffer*

a setback in terms of enrolments in 1979. Of the 19 universities in Australia 13, including Murdoch University and The University of Western Australia, fell short of the minimum student load figures which had been established for them by the Universities Council. By contrast, equivalent full time student numbers at The Western Australian Institute of Technology and the Colleges in 1979 fell within the upper half of the approved ranges.

2.54 *The more significant features of the pattern of growth in enrolments at The University of Western Australia, The Western Australian Institute of Technology and the Colleges over the period 1975 to 1979 are summarised below. In interpreting these data it needs to be borne in mind that in a number of cases (e.g. Economics and Commerce, Education and Humanities and Social Sciences at The Western Australian Institute of Technology) growth in total enrolments has been caused by the flow through of students into the later years of courses rather than by an increase in the intake of new students.*

(a) The University of Western Australia

- (i) Equivalent full time student numbers have declined marginally from 8 239 in 1975 to 8 141 in 1979.
- (ii) Significant growth has taken place in Agriculture (158 EFTS to 226 EFTS), Science (1 297 EFTS to 1 663 EFTS) and "other" fields of study (2 227 EFTS to 2 356 EFTS).
- (iii) Significant contraction has taken place in Economics and Commerce (1 062 EFTS to 960 EFTS), Education (693 EFTS to 345 EFTS) and Humanities and Social Sciences (2 803 EFTS to 2 591 EFTS).
- (iv) Equivalent full time higher degree student numbers have increased by 18.2 per cent from 660 to 780.

(b) The Western Australian Institute of Technology

- (i) Equivalent full time student numbers have increased by 17.6 per cent from 6 955 to 8 177 with the bulk of this increase occurring between 1975 and 1976.

- (ii) Significant growth has taken place in Agriculture (116 EFTS to 164 EFTS), Economics and Commerce (1 951 EFTS to 2 111 EFTS), Education (477 EFTS to 743 EFTS), Humanities and Social Sciences (1 665 EFTS to 1 868 EFTS), Science (549 EFTS to 635 EFTS) and, most significantly, in "other" fields of study (2 198 EFTS to 2 656 EFTS).
 - (iii) Significant contraction has taken place in some courses (see for example the discussion contained in paragraph 3.58 of this report regarding the Institute course in Social Sciences).
 - (iv) Equivalent full time higher degree student numbers have increased from 36 to 76. The number of higher degree students is still very small and is concentrated in Economics and Commerce (33 EFTS), Science (33 EFTS mainly in the Physical Sciences) and "other" fields of study (10 EFTS).
 - (v) There has been a major shift from diploma level (associate-ship courses) to degree level studies.
- (c) The Colleges
- (i) Equivalent full time student numbers have increased by 21.8 per cent from 4 697 to 5 723.
 - (ii) Significant growth has taken place in Economics and Commerce (nil to 632 EFTS) and there has been some growth in Education (4 603 EFTS to 4 876 EFTS), Humanities and Social Sciences (nil to 59 EFTS) and "other" fields of study (95 EFTS to 157 EFTS).
 - (iii) There have been no developments at the higher degree level.
 - (iv) There has been a significant shift from pre-service (diploma level) to post-experience (degree level) courses.

2.55 *It has been suggested to the Committee that Murdoch University's growth and development has been prejudiced by developments which have taken place at other institutions. In this regard the Committee has noted that, in the majority of cases, the various other higher educat-*

ion institutions in Western Australia were established in their major fields of study before Murdoch University opened in 1975. The only significant exceptions relate to Education where The Western Australian Institute of Technology entered the field in 1975 and the Colleges have developed a significant range of post-experience courses since 1975, and Economics and Commerce where Churchlands College entered the field in 1976.

- 2.56 A number of submissions has drawn the Committee's attention to the Partridge Committee's view that developments in non-technological areas at The Western Australian Institute of Technology have been excessive and that the then proposed Western Australian Post Secondary Education Commission should initiate a study of the future development of the Institute, especially with reference to the rate of growth in student numbers and enrolment ceilings within the several schools.²⁰
- 2.57 An indication of the pattern of enrolments in non-technological and other areas at the Institute since 1975 can be obtained from Tables 2.7 to 2.13. As the tables show, enrolments in the Humanities and Social Sciences increased from 1 665 EFTS in 1975 to 1 862 EFTS in 1977 and, since then, have increased only marginally to 1 868 EFTS. Enrolments in Teacher Education, the other large "non-technological" area have increased, largely as a result of the flow through of students into the later years of courses, from 477 EFTS in 1975 to 675 EFTS in 1977 and to 743 EFTS in 1979.
- 2.58 The Committee is aware that The Western Australian Institute of Technology subscribes to the all embracing definition of technology (the application of knowledge to satisfy human needs) which was enunciated by the Commonwealth Advisory Committee on Advanced Education in its Second Report. The Committee does not necessarily subscribe to this definition. It accepts, however, that institutions such as the Western Australian Institute of Technology have a role to play in the provision of courses in fields of study such as Teacher Education and the Humanities and Social Sciences, and it recognises that, by and large, the Institute has developed within a framework determined by the various Commonwealth and State reports referred to in Appendix C of this report.

20. *Post Secondary Education in Western Australia*, p.340.

- 2.59 Indeed, the Committee has also noted that, by and large, *The University of Western Australia, the Western Australian Institute of Technology, and the Colleges* have all developed in accordance with Commonwealth and State policies which have been based on the reports of the Murray, Martin, Jackson and Nott Committees and on the various recommendations and policies of the Australian Universities Commission, the Commonwealth Advisory Committee on Advanced Education, the Western Australian Tertiary Education Commission and more recently, the Commonwealth Tertiary Education Commission and its Councils and the Western Australian Post Secondary Education Commission.
- 2.60 It needs to be acknowledged, however, that *the major involvement of The University of Western Australia and The Western Australian Institute of Technology in Education, the Humanities and Social Sciences and Science, and the Colleges in Education* has, in a general sense, provided competition for Murdoch University. More particularly, it is possible that the growth that has taken place between 1975 and 1979 in equivalent full time students in Science (plus 366 EFTS) at The University of Western Australia; in Education (plus 266 EFTS), Humanities and Social Sciences (plus 203 EFTS) and Science (plus 86 EFTS largely in Mathematics and the Physical Sciences) at The Western Australian Institute of Technology; and in Education (plus 273 EFTS) at the Colleges has been competitive with developments at Murdoch University. It is interesting to note however, that Murdoch University does not appear to have been able to fill its pre-service primary teacher education quota in 1979 whereas The Western Australian Institute of Technology and the Colleges, which were asked to reduce intakes into pre-service primary teacher education courses by 10 per cent in 1979, have been able to achieve their quotas.
- 2.61 The growth in enrolments in other institutions since 1975 illustrates *the difficulty of regulating student numbers by the imposition of global quotas only*. Since 1975, the total enrolment at The University of Western Australia has been virtually constant, but there has been a resurgence of interest in Science (an increase of 366 EFTS, in part balancing declines in Economics and Commerce, Education and the Humanities and Social Sciences). Thus the limitation on total growth at The University of Western Australia has not prevented the almost certainly competitive growth in Science enrolments.

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CHAPTER 3

THE ROLE AND DEVELOPMENT OF MURDOCH UNIVERSITY

The Role of the University

- 3.1 In putting the case for the establishment of the State's second university institution as an autonomous university rather than a university college, the Senate of The University of Western Australia informed the Premier that it had been impressed by the significantly new approach to planning and development which had emerged where a university had been autonomous from the beginning and that its recommendations were based very much on the University's concern that full opportunity should be taken for a fresh approach to the role of a university today and how this role should be performed.¹
- 3.2 This desire for a fresh approach is apparent in a statement prepared by the Murdoch University Planning Board in an attempt to sketch out to prospective foundation appointees the kind of institution it was hoped Murdoch would become. The statement suggested that future detailed academic planning should bear constantly in mind the special needs, both educational and vocational, of the University's likely students; that it should maintain an awareness of community needs in the broader sense; that without sacrificing depth, it should give attention to the desirability both of permitting students a wider range of choice than is customary in selecting combinations of units for study within degree courses, and of encouraging inter-disciplinary study at both undergraduate and postgraduate levels; and that it should attempt to avoid the unnecessary duplication of activities already represented in a major way at The University of Western Australia. The Planning Board also recommended that postgraduate studies and research should be strongly established as early as practicable, and that the University should discharge its share of an overall responsibility to part time and external students.²

1. Quoted in the Murdoch University Planning Board's submission to the Australian Universities Commission for the 1970-72 triennium.

2. Quoted in Murdoch University's submission to the Australian Universities Commission for the 1976-78 triennium.

- 3.3 Just prior to its dissolution in mid 1973 the Murdoch University Planning Board gave further thought to the role of the University and urged the foundation academic team to pay careful attention to their responsibility to contribute towards the diversification of higher educational opportunities in the State, inter alia by attempting to provide alternative means of acquiring qualifications in the traditional disciplines; by seeking new and contemporary areas of study which would provide interesting, alternative means of gaining a higher education and qualification; and by attempting to establish academically viable interdisciplinary courses which might enhance the employability of graduates, and possibly protect them from the very real dangers of occupational obsolescence which the Planning Board believed could too easily in the future become a feature of narrowly specialised degree programmes.
- 3.4 The University, in its submission to the Australian Universities Commission for the 1976-78 triennium, indicated that much time and thought had been devoted to formulating an ethos for the University and that it had been decided that the University's objectives, and hence its programmes, should be dictated by a number of considerations which could be expressed in terms of beliefs. The following were listed as the most important -
- (a) *While one of the University's major commitments will be adequately to prepare students for careers in the traditional professions and other appropriate avenues, this commitment should not dominate its programmes. Furthermore, we believe that no one may now be considered properly trained for a professional vocation without a liberal education, and that a liberal education is therefore of increasing value in contemporary society.*
 - (b) *A liberal education is concerned with more than the amassing of knowledge and the development of specialised skills. It calls for the development of breadth of understanding, a social conscience, intellectual humility, and the refinement of a critical ability that can be effectively mobilised in dealing with a wide range of problems rather than only those that lie in the area in which a specialised training has been obtained. It also calls for an informed sensitivity to the important issues of the times.*
 - (c) *The University's programmes should be designed to foster such awareness. We believe that there exists among students a largely untapped reservoir of concern for the massive and urgent problems facing contemporary society which can be harnessed as a vital, motivating force in the learning process. It is the University's task to assist the student to achieve informed and rational*

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3. Quoted in Murdoch University's submission to the Australian Universities Commission for the 1976-78 triennium.

attitudes towards the major social issues of our time. Awareness must be complemented by responsibility.

- (d) Pass students are as important as the Honours students, whom they invariably outnumber. Hence the University should devote the greater share of its resources to providing useful, satisfying and intellectually demanding programmes at Pass level.
- (e) Since all too often there has been lacking among university graduates a broad and well-informed awareness of the world, we believe strongly in the provision of generalist programmes. These need lack neither depth nor rigour.
- (f) The University should not be restricted to a limited group of students within a narrow age range. Many talented people are at present disadvantaged by an inability to attend university. They would benefit by the experience, and their opportunity to do so should be extended. A period at university should be regarded as of value, even if the student decides for any reason not to proceed formally to admission to a degree. In short, we believe that education is an intensely individual experience which demands a great deal of attention to the individual goals and needs of students. Murdoch University must therefore equip itself to pay due attention to these goals and needs.
- (g) The rapid development of knowledge and the emergence of new areas of study that characterise the late twentieth century, dictate a commitment to identifying fields of study that are not always to be found in the traditional curriculum.
- (h) Information today is accumulating at a prodigious rate. Such a rate of growth, coupled with the rapid obsolescence of a great deal of earlier knowledge, means that we must regard life as a continuous process of education and re-education. Hence, one of the most important aims of a university today should be to create an appetite for learning in the student. Intellectual development should be self-generating, both before and after the student has graduated.
- (i) Traditional methods of university teaching and assessment, especially the formal lecture and examination, have of recent years become the target of widespread criticism from both students and teachers. While not totally decrying such methods, we believe we must make a constant effort to raise standards of assessment and teaching throughout the university. In particular, we must not be hesitant about familiarising ourselves with the new techniques and equipment produced by the communications revolution, nor dignify timidity with the name of conservatism.
- (j) A university should not be an "ivory tower" but should have a close and vital relationship with the community that supports it. Such a relationship is certain to benefit both the university and the surrounding community.
- (k) A commitment to research and to traditional standards of scholarship is not incompatible with these other beliefs. Murdoch should encourage its members to achieve excellence in these areas.

- (l) Finally, we are aware that a final plan for a university that must grow and mature over many decades, cannot be laid down during its first year of operation. A university should be responsive to changing needs, demands and resources. The ability to respond flexibly to change must be built into any plan for university development, especially during the early years.

3.5 These beliefs have been translated by the University into the following statement of educational objectives -

- (a) to encourage students to develop a rational and informed awareness of the problems which confront the world today;
- (b) to provide a liberal and relevant education for a varied range of students (some of whom will be external students) drawn from a wide range of age groups and from many walks of life;
- (c) to enhance the employability of students by providing programmes of study that not only prepare them for traditional careers, but also open up new career opportunities in both the public and private sectors;
- (d) to create conditions which will encourage the student to keep on studying, questioning and thinking critically long after he has left university;
- (e) to locate important new fields of study and devise programmes to deal with them;
- (f) to ensure high standards of teaching and communication throughout the University;
- (g) to provide generalist as well as specialist programmes and to see that the pass student is given at least as much attention as the honours student;
- (h) to make an enduring effort to seek ways in which the University and the community may derive mutual benefit from the fostering of a close relationship between the two;
- (i) to open opportunities to benefit from a university experience to those who are, or who have been, disadvantaged by an inability to participate in a regular programme of university studies;
- (j) to foster scholarship and the advancement of knowledge and to provide opportunities for basic and applied research in fields of university and community interest;
- (k) to provide opportunities for study beyond the first degree, including the provision of continuing education and refresher courses, and for training in research;
- (l) to respond flexibly to change at all levels.

3.6 The University, in its submission to the Committee, indicated that the main elements which give it a special character are -

- (a) *the general support for inter-disciplinary approaches, which is encouraged by the structure of Schools rather than Departments;*
- (b) *the first year of study, for Part I of degrees, in which the student is both obliged to take some course work outside the field of his or her likely specialisation and is enabled to choose additional electives as well as taking courses which are prerequisites for a particular programme;*
- (c) *the large External Studies programme which is available both to distant students and to those within easy reach of the University;*
- (d) *the encouragement of a system of independent study contracts; and*
- (e) *the presence of a considerable proportion of mature age students in internal as well as external programmes.*

3.7 These elements, which give Murdoch its special character, are discussed in more detail in the following paragraphs. It is important to note, however, that the University emphasises in its submission that none of these special characteristics should be allowed to disguise the fact that a high proportion of academic work at Murdoch is, in fact, quite orthodox. It suggests that it is a matter of general style, as well as a modest amount of innovation, plus the fact that in many subject areas the Murdoch approach and coverage is different from that which is offered at The University of Western Australia, which entitles Murdoch to claim that it is indeed offering a genuinely alternative path through higher education in Western Australia.

Organisational Structure

3.8 Murdoch University is organised on the basis of Schools of Study with both academic and administrative responsibilities. The following six Schools have been established to date -

Education
Environmental and Life Sciences
Human Communication
Mathematical and Physical Sciences
Social Inquiry
Veterinary Studies

- 3.9 Table 3.1 shows details of full time academic staff numbers in the various disciplinary areas within these Schools for the years 1975 to 1979. While total staff numbers have grown substantially over the five year period, a number of discipline areas are still staffed with only a limited number of staff. In particular, staff numbers in Chinese Studies, Communication Studies, Southeast Asian Studies, Physics and Economics have remained relatively small.
- 3.10 Members of the academic and other staff allocated to each School are responsible to the Dean of the School who has wide administrative and budgetary authority. Each Dean is assisted by a School Board which includes elected staff and student representatives. Each School also has a Forum comprising all members of the academic staff and representatives of other staff and students. This Forum must meet at least once each semester for the discussion of matters of general interest.
- 3.11 In addition to the six Schools of Study there are three academic support services - the University Library, the Education Services and Teaching Resources Unit and the Computer Centre. There are also three research units - the Mineral Chemistry Research Unit, the Institute for Environmental Science and the Institute for Social Programme Evaluation.
- 3.12 The Committee has been told that the significant features of Murdoch's organisational structure are -
- (a) The organisation of the University into Schools devoted to fields of study which include the interests of several disciplines, rather than Departments each concerned with a single discipline. This School structure maximises opportunities for inter-disciplinary teaching and research, and because of the orientation of people to cooperation across subject boundaries, the same openness of mind develops across School frontiers. The School structure also facilitates the re-allocation of resources to meet changing needs.
 - (b) Degree programmes are related to, but not fully identified with, Schools of Study. It is possible, then, for degree programmes to be developed by two or more Schools.
 - (c) Both staff and students have a wide range of opportunities for presenting views and for participating in the decision making process within the University.

TABLE 3.1

FULL TIME TEACHING AND RESEARCH STAFF, MURDOCH UNIVERSITY, 1975-79

School/Discipline Area	Level	Year				
		1975	1976	1977	1978	1979
EDUCATION	Professor	1	2	2	2	2
	Associate Professor	-	-	-	-	-
	Senior Lecturer/ Lecturer	2	4	6	10	12
	Senior Tutor/Tutor	3	6	11	12	11
	Total	6	12	19	24	25
ENVIRONMENTAL AND LIFE SCIENCES	- Biology	Professor	2	2	3	3
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	3	5	6	8
		Senior Tutor/Tutor	1	2	3	3
		Total	6	9	12	14
	- Environmental Science	Professor	1	1	1	1
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	2	3	3	6
		Senior Tutor/Tutor	-	2	3	3
		Total	3	6	7	10
	- Chinese Studies	Professor	-	-	-	-
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	1	1	1	1
		Senior Tutor/Tutor	-	2	3	2
		Total	1	3	4	4
	- Communication Studies	Professor	-	-	-	-
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	1	3	3	5
		Senior Tutor/Tutor	1	3	3	1
		Total	2	6	6	2
	- Southeast Asian Studies	Professor	-	-	-	-
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	1	1	2	2
		Senior Tutor/Tutor	-	-	1	1
		Total	1	1	3	3

TABLE 3.1 (Cont'd.)

FULL TIME TEACHING AND RESEARCH STAFF, MURDOCH UNIVERSITY, 1975-79

School/Discipline Area	Level	Year				
		1975	1976	1977	1978	1979
HUMAN COMMUNICATION (Cont'd.) - Comparative Literature	Professor	1	1	1	1	1
	Associate Professor	-	-	-	-	-
	Senior Lecturer/ Lecturer	1	1	5	5	5
	Senior Tutor/Tutor	-	3	4	5	4
	Total	2	5	10	11	10
MATHEMATICAL AND PHYSICAL SCIENCES	- Chemistry/Mineral Science	Professor	1	1	1	1
		Associate Professor	-	-	1	1
		Senior Lecturer/ Lecturer	3	5	8	6
		Senior Tutor/Tutor	-	-	-	-
		Total	4	6	9	8
	- Mathematics	Professor	1	1	1	1
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	2	3	4	4
		Senior Tutor/Tutor	1	1	2	2
		Total	4	5	7	7
	- Physics	Professor	1	1	1	1
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	2	1	1	4
		Senior Tutor/Tutor	-	-	2	1
		Total	3	2	4	6
SOCIAL INQUIRY	- Economics	Professor	1	1	1	1
		Associate Professor	-	-	-	1
		Senior Lecturer/ Lecturer	-	2	4	3
		Senior Tutor/Tutor	-	-	-	-
		Total	1	3	5	5
	- History	Professor	1	1	1	1
		Associate Professor	-	-	-	-
		Senior Lecturer/ Lecturer	-	3	2	4
		Senior Tutor/Tutor	-	2	3	2
		Total	1	6	6	7

TABLE 3.1 (Cont'd.)

FULL TIME TEACHING AND RESEARCH STAFF, MURDOCH UNIVERSITY, 1975-79

School/Discipline Area	Level	Year				
		1975	1976	1977	1978	1979
SOCIAL INQUIRY (Cont'd.)						
	- Psychology					
	Professor	-	-	1	1	1
	Associate Professor	-	-	1	1	2
	Senior Lecturer/ Lecturer	4	2	2	2	3
	Senior Tutor/Tutor	-	1	4	4	3
	Total	4	3	8	8	9
	- Social Inquiry (including Social and Political Theory)					
	Professor	1	1	1	1	1
	Associate Professor	-	-	-	-	-
	Senior Lecturer/ Lecturer	2	3	6	7	8
	Senior Tutor/Tutor	6	4	7	6	3
	Total	9	8	14	14	12
VETERINARY STUDIES						
	- Veterinary Biology					
	Professor	3	3	3	3	3
	Associate Professor	1	-	-	1	3
	Senior Lecturer/ Lecturer	2	11	15	18	16
	Senior Tutor/Tutor	-	-	1	-	-
	Total	6	14	19	22	22
	- Applied Veter- inary Medicine					
	Professor	-	1	2	3	3
	Associate Professor	-	-	-	1	1
	Senior Lecturer/ Lecturer	-	-	1	11	13
	Senior Tutor/Tutor	-	-	-	1	3
	Total	-	1	3	16	20
TOTAL UNIVERSITY	Professor	14	16	19	20	20
	Associate Professor	1	-	1	4	8
	Senior Lecturer/ Lecturer	26	48	69	94	100
	Senior Tutor/Tutor	12	26	47	45	39
	Total	53	90	136	163	167

Admissions

- 3.13 Murdoch University's admissions policy is summarised in its submission to the Australian Universities Commission for the 1976-78 triennium as follows -

The underlying philosophy is that the admissions policy should be flexible, and that in assessing the eligibility of a particular candidate for admission, the University will thus be primarily concerned, not with formal qualifications, but with answering the question "Does the applicant have the ability and motivation to undertake and benefit from a university study programme?"

To build flexibility into our admissions, the University, in considering the eligibility of a particular student, will be guided by information obtained from a number of sources. The sources of information will include structured school reports, special selection test results, interviews with applicants, and leaving examination results...

It is intended that the admissions policy will cater for those students who wish to defer admission after completing their secondary school education, and for other persons who wish to enrol at the University after a number of years in the workforce. As in the case of general admissions, it is intended that such applicants should be treated on their merits, and the University does not intend to prescribe any particular formal matriculation examination for mature age applicants. Consideration will be given to the increased motivation which such students often bring to bear on their studies.

- 3.14 From the outset Murdoch has attracted a much higher than average proportion of mature age students and a much lower than average proportion of school leavers. Table 3.2 details students commencing undergraduate bachelor degree courses at Murdoch University by highest qualification on commencement for the years 1975 to 1979, while Tables 3.3 to 3.7 show the same data in terms of the various fields of study at Murdoch University. It is noticeable from the tables that the proportion of recent school leavers commencing undergraduate courses in all fields of study with the exception of Veterinary Science is small and, in most cases, has been declining. It is also noticeable that the number of "other" commencing students has fluctuated considerably over the five year period and that the downturn in numbers in this category in 1979 was largely responsible for the downturn in commencing student numbers in 1979.

TABLE 3.2

STUDENTS COMMENCING UNDERGRADUATE BACHELOR'S DEGREE COURSES
BY HIGHEST QUALIFICATION ON COMMENCEMENT,
MURDOCH UNIVERSITY, 1975-79

Highest Qualification	1975		1976		1977		1978		1979	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or College of Advanced Education	187	29	346	41	254	36	187	23	222	33
Final School Exams in Australia in Previous Year or One Year Ago	235	37	237	28	206	29	142	17	123	19
Final School Exams in Australia More than One Year Ago	79	12	86	10	77	11	130	16	124	19
Overseas Qualification	75	12	101	12	77	11	99	12	68	10
Other	65	10	76	9	95	13	255	31	126	19
Total	641	100	846	100	709	100	813	100	663	100

TABLE 3.3

STUDENTS COMMENCING UNDERGRADUATE BACHELOR'S DEGREE COURSES
IN EDUCATION BY HIGHEST QUALIFICATION ON COMMENCEMENT,
MURDOCH UNIVERSITY, 1975-79

Highest Qualification	1975		1976		1977		1978		1979	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or College of Advanced Education	19	19	63	40	85	54	51	34	58	52
Final School Exams in Australia in Previous Year or One Year Ago	50	49	48	30	27	17	16	11	21	19
Final School Exams in Australia More than One Year Ago	10	10	17	11	12	8	23	15	8	7
Overseas Qualification	7	7	18	11	12	8	11	7	12	11
Other	15	15	13	8	20	13	51	33	12	11
Total	101	100	159	100	156	100	152	100	111	100

TABLE 3.4

STUDENTS COMMENCING UNDERGRADUATE BACHELOR'S DEGREE COURSES
IN HUMANITIES AND SOCIAL SCIENCES^(a) BY HIGHEST QUALIFICATION
ON COMMENCEMENT, MURDOCH UNIVERSITY, 1975-79

Highest Qualification	1975		1976		1977		1978		1979	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or College of Advanced Education	103	31	123	36	85	34	60	20	90	34
Final School Exams in Australia in Previous Year or One Year Ago	100	30	78	22	49	20	28	9	26	10
Final School Exams in Australia More than One Year Ago	50	15	45	13	38	15	55	18	50	19
Overseas Qualification	44	14	59	17	38	15	50	17	35	14
Other	33	10	42	12	40	16	107	36	61	23
Total	330	100	352	100	250	100	300	100	262	100

Note: (a) Includes Economics and Commerce.

TABLE 3.5

STUDENTS COMMENCING UNDERGRADUATE BACHELOR'S DEGREE COURSES
IN SCIENCE BY HIGHEST QUALIFICATION ON COMMENCEMENT,
MURDOCH UNIVERSITY, 1975-79

Highest Qualification	1975		1976		1977		1978		1979	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or College of Advanced Education	35	30	52	31	41	23	47	23	41	23
Final School Exams in Australia in Previous Year or One Year Ago	53	46	74	44	85	48	58	28	44	24
Final School Exams in Australia More than One Year Ago	8	7	15	9	15	8	34	16	46	25
Overseas Qualification	13	11	16	10	17	10	22	11	15	8
Other	7	6	10	6	20	11	46	22	35	19
Total	116	100	167	100	178	100	207	100	181	100

TABLE 3.6

STUDENTS COMMENCING UNDERGRADUATE BACHELOR'S DEGREE COURSES
IN VETERINARY SCIENCE BY HIGHEST QUALIFICATION ON COMMENCEMENT,
MURDOCH UNIVERSITY, 1975-79

Highest Qualification	1975		1976		1977		1978		1979	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or College of Advanced Education	10	37	12	21	10	19	4	8	7	13
Final School Exams in Australia in Previous Year or One Year Ago	14	52	37	65	38	72	33	69	30	56
Final School Exams in Australia More than One Year Ago	2	7	2	4	-	-	1	2	11	20
Overseas Qualification	1	4	6	10	4	7	2	4	2	4
Other	-	-	-	-	1	2	8	17	4	7
Total	27	100	57	100	53	100	48	100	54	100

TABLE 3.7

STUDENTS COMMENCING OTHER^(a) UNDERGRADUATE BACHELOR'S DEGREE COURSES
BY HIGHEST QUALIFICATION ON COMMENCEMENT,
MURDOCH UNIVERSITY, 1975-79

Highest Qualification	1975		1976		1977		1978		1979	
	No.	%	No.	%	No.	%	No.	%	No.	%
University or College of Advanced Education	20	30	91	82	33	46	25	24	26	47
Final School Exams in Australia in Previous Year or One Year Ago	18	27	-	-	7	10	7	7	2	4
Final School Exams in Australia More than One Year Ago	9	13	7	6	12	17	17	16	9	16
Overseas Qualification	10	15	2	2	6	8	14	13	4	7
Other	10	15	11	10	14	19	43	40	14	26
Total	67	100	111	100	72	100	106	100	55	100

Note : (a) Includes General Studies, Programme Choice Deferred and UWA Degree.

3.15 In addition, the University has attracted a substantially higher than average proportion of part time and external students. Table 3.8, which shows total enrolments by mode of enrolment and by field of study, illustrates the high overall proportion of part time and external students and also the distribution of such students among the various fields of study.

TABLE 3.8

TOTAL ENROLMENTS BY MODE OF ENROLMENT
AND BY FIELD OF STUDY, MURDOCH UNIVERSITY, 1979

Field of Study	Mode of Enrolment							
	F.T.		P.T.		Ext.		Total	
	No.	%	No.	%	No.	%	No.	%
Economics & Commerce ^(a)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Education	154	29	137	26	237	45	528	100
Humanities & Social Sciences ^(b)	342	41	204	24	296	35	842	100
Biological Sciences	270	72	63	17	42	11	375	100
Mathematics & Physical Sciences	56	39	13	9	73	51	142	100
Veterinary Science	226	95	12	5	-	-	238	100
Other ^(c)	21	9	78	33	137	58	236	100
Total	1069	45	507	21	785	33	2361	100

Notes: (a) Included with Humanities and Social Sciences.

(b) Includes Economics and Commerce.

(c) Includes Programme Choice Deferred (114), General Studies (94) and UWA Units (28).

- 3.16 It has been suggested to the Committee that these higher than average proportions of mature age and part time and external students are largely a reflection of the availability of external programmes and of the University's intention to facilitate mature age entry by having a rigorous but flexible admissions policy for non-school leavers. It was also suggested to the Committee that these high proportions of mature age and part time and external students could result in Murdoch having a relatively low retention rate. In this regard, the Committee has been informed by the University that the rate at which students at Murdoch withdraw from a programme, either as a result of failure in the first semester or for other reasons, or formally suspend their enrolment (which enables them to re-enter the University without penalty at a later date) has fallen from 15.2 per cent in 1976 to 12.5 per cent in 1978, the last full year for which data are available. The rates of withdrawal and suspension are significantly higher for part time and external students than for full time students. In 1978 the rates were 7.3 per cent for full time students, 14.5 per cent for part time students and 18.8 per cent for external students. This seems to support the contention that the larger than average proportions of part time and external students could result in Murdoch University having a relatively low retention rate. The Committee has not, however, been able to obtain any comparable information for other institutions and, accordingly, does not know whether Murdoch's retention rate is more or less favourable than other institutions.

Undergraduate Studies

- 3.17 In its submission to the Committee, Murdoch University indicated that the differences between the general structure and organisation of its undergraduate courses and the general structure and organisation of undergraduate courses at other local institutions were, in most respects, ones of degree rather than of fundamental principle. The

following are among the features of the undergraduate programme which the University has identified -

- (a) *The division of the undergraduate degree into Part I, occupying the first academic year, and Part II, is designed to give students an introduction to university level studies, a broad perspective and an opportunity to develop their interests before they make a final commitment to a particular Part II programme. No programme may claim more than 12 points or half a year's work in the form of pre-requisites for admission to that programme, so that the opportunity exists for students to qualify for more than one programme; a student may in fact, defer entirely his choice of programme until the end of Part I. The compulsory trunk courses⁴ in Part I are designed as imaginative inter-disciplinary studies of subjects of topical significance which bring students into touch with staff from a wide range of disciplines. Part I also affords an opportunity within the formal course structure for students to develop university study skills.*
- (b) *Following completion of Part I, a student undertakes an organised course of study, known as a (Part II) 'programme', leading to a particular degree. A (Part II) programme may be a single discipline (Mathematics, History), multi-disciplinary (Social and Political Theory), related to an area (Southeast Asian Studies) or a theme (Population and World Resources, Mineral Science, Energy and Resources), or to qualification for a profession (Education, Psychology, Veterinary Studies). Each programme is controlled by a programme committee. Although most programmes are school based it is possible for a programme to be organised across several schools (Population and World Resources), or independently of any school (General Studies). A programme comprises core (compulsory) units, core electives and general electives. A student may transfer from one programme to another and it is possible to meet the requirements of more than one programme. The programme is seen as fostering multi-disciplinary studies and as being both more flexible in its requirements and easier to change or discontinue than the more usual department-based major. The regulations permit a student to submit for approval an individual programme - made up of courses offered in established programmes and, if the student wishes, independent study contracts - where the student considers that his/her interests are not reasonably met by an established programme, but this opportunity has been rarely used.*
- (c) *Selection for honours is at the end of the ordinary degree programme in Arts or Science... Persons who have obtained an ordinary degree at another tertiary institution may be admitted as candidates for the honours degree.*

4. The trunk courses available in 1979 were -
 World in Transition
 Energy and Life Systems
 Structure, Thought and Reality.

- (d) Provision is made for flexibility in the make-up of programmes of study through the semester system and with relatively small course modules, but with the opportunity for year long courses where this is appropriate. With 24 points as the standard full time annual load, individual courses may have values of $1\frac{1}{2}$, 3, $4\frac{1}{2}$, 6 and more points. It is possible for a student to get permission to substitute Part II units for Part I units rather than being required rigidly to complete a full year's work at Part I level.
- (e) The assessment system permits a wide range of assessment practices. Students in each course are informed at the beginning of semester what the assessment procedures will be. Students may opt to be graded on a "pass/fail" basis rather than by letter grades. Provision is made for student appeals against assessment of coursework.
- (f) A student may be permitted as part of his programme to undertake a course of independent study of a topic not available as a standard course. The student must have demonstrated a capacity for independent study (approval will not generally be given to a Part I student) and must work closely with an appointed supervisor. Independent study contracts are limited : not all members of staff take part, and in practice a member of staff who is involved would not normally supervise more than one or two contracts each year.

3.18 The various undergraduate degree programmes offered by the Murdoch Schools of Study are as follows -

<u>School</u>	<u>Programmes</u>
Education	Bachelor of Education Further Teacher Education Initial Teacher Education - Primary Initial Teacher Education - Secondary
Environmental and Life Sciences	Biology Environmental Science Population and World Resources
Human Communication	Chinese Studies Communication Studies Comparative Literature Southeast Asian Studies
Mathematical and Physical Sciences	Chemistry Mathematics Mineral Science, Energy and Resources Physics
Social Inquiry	Economics History Psychology Social and Political Theory
Veterinary Studies	Veterinary Studies

- 3.19 In addition, a non-school undergraduate programme in General Studies is offered and new undergraduate students who do not wish to decide on a particular programme may enrol in a "Programme Choice Deferred" stream. The University also enrolls a limited number of students "not for degree" and, at present, a number of students are completing degrees of The University of Western Australia through external studies at Murdoch University. A number of units formerly offered externally by The University of Western Australia are now offered through the Murdoch University External Studies Unit to students enrolled at Murdoch to complete University of Western Australia degree courses. The University also offers postgraduate diploma programmes in Education and in Mineral Science.

Postgraduate Studies and Research

- 3.20 Student load in the higher degree area at Murdoch has increased to the stage where it constitutes some 13.2 per cent of total student load and, while this is still somewhat below the Australian average of 18.3 per cent, it compares more than favourably with the position in a number of other small and/or newly established universities in Australia (e.g. Deakin 2.7 per cent, Griffith 10.5 per cent, and Wollongong 11.8 per cent).
- 3.21 At present the University offers coursework master's degree programmes in Education, Environmental Science and Applied Psychology. Research degrees of Master and Doctor of Philosophy can also be undertaken in any of the six Schools of Study.
- 3.22 Murdoch's success in research is perhaps best illustrated by the extent to which it has been able to attract research funding from bodies such as the Australian Research Grants Committee, the Education Research and Development Committee, the National Health and Medical Research Council, and from government and industry. Table 3.9 which shows details of research expenditure by source of funds for Australian universities for the year 1977, indicates that by 1977 Murdoch University, despite its small size, was successfully attracting substantial research funding. Although the amounts attracted by Murdoch University are not large in comparison with the amounts attracted by the larger universities in Australia, they compare more than favourably with the amounts attracted by some of the other small and/or new universities (e.g. Deakin, Griffith, James Cook and Wollongong).

TABLE 3.9

RESEARCH EXPENDITURE BY SOURCE OF FUNDS, AUSTRALIAN UNIVERSITIES, 1977

University	Student Load (WSU's)	Total Expenditure	Recurrent Grants	Special Research Grants	Equipment Grants	ARGC	NHMRC	Other Commonwealth Government	State Government	Other
		\$	\$	\$	\$	\$	\$	\$	\$	\$
Sydney ^(a)	17,826	8,524,706	2,105,389	551,000	-	1,466,617	729,092	1,031,699	470,922	2,169,787
New South Wales	17,012	5,779,645	995,746	683,408	445,958	1,095,132	528,361	1,209,133	134,915	696,993
Queensland	15,156	4,504,943	749,381	442,140	-	706,844	394,127	901,510	59,165	1,251,776
Melbourne	14,817	10,043,998	2,331,606	564,000	1,015,977	980,576	1,149,972	1,321,954	452,160	2,227,753
Monash	12,693	3,507,000	667,000	430,000	63,000	972,000	530,000	362,000	49,000	434,000
Western Australia	8,666	4,312,035	1,214,938	247,000	208,600	395,181	299,606	658,429	518,315	769,966
Adelaide	8,533	4,023,573	720,857	361,000	157,704	1,178,915	288,397	790,007	287,087	239,606
Macquarie	7,914	1,090,410	274,315	190,000	-	262,094	-	267,732	54,637	41,632
La Trobe	7,636	1,218,000	378,000	273,000	-	352,000	14,000	9,000	-	192,000
New England	5,921	2,160,983	116,605	158,000	-	129,635	11,687	798,180	52,855	894,021
Newcastle	3,854	724,000	106,000	97,000	-	213,000	80,000	75,000	1,000	152,000
Flinders	3,562	1,936,000	544,000	95,000	71,000	462,000	299,000	115,000	121,000	229,000
Tasmania	3,068	1,035,311	363,287 ^(b)	-	148,035	223,120	52,305	149,328	67,296	31,940
Deakin	2,065	84,628	-	-	-	-	21,485	22,995	-	40,146
Wollongong	1,964	342,055	96,539	79,112	-	40,055	-	99,072	10,797	16,660
James Cook	1,656	767,548	116,231	58,329	5,496	203,014	-	194,315	38,771	151,392
- Murdoch -	1,509	605,000	128,000	44,000	-	153,000	21,000	132,000	54,000	73,000
Griffith	1,201	378,581	219,875	40,258	-	101,690	-	8,172	232	8,354
All States	135 053	51,038,415	11,127,589	4,313,247	2,115,770	8,935,073	4,419,032	8,145,526	2,372,152	9,610,026
Australian National	5 042	39,073,029	35,419,377	-	1,763,694	302,610	37,280	1,129,979	16,486	403,603
Australia	140,095	90,111,444	46,546,966	4,313,247	3,879,484	9,237,683	4,456,312	9,275,505	2,388,638	10,013,629

Source: The Direct Funding of Basic Research, A Report to the Prime Minister by the Australian Science and Technology Council, Professor G.M. Badger, Chairman, Canberra: A.G.P.S., 1979.

Notes: (a) Estimated.
(b) Includes Special Research Grants.

The distribution of research funds between the various Schools at Murdoch University is detailed in Tables 3.10 and 3.11. As the tables indicate, the Schools of Environmental and Life Sciences, Veterinary Studies and Mathematics and Physical Sciences (primarily the Mineral Chemistry Research Unit) have been particularly successful in obtaining research funds.

TABLE 3.10

DISTRIBUTION BY ADMINISTRATIVE UNIT AND BY SOURCE OF FUNDS,
OF OUTSIDE RESEARCH FUNDS RECEIVED^(a)
BY MURDOCH UNIVERSITY STAFF, 1978

Administrative Unit	ARGC, NH & MRC, & ERDC ^(b)		Other		Total	
	\$	%	\$	%	\$	%
Education	21 552	12	15 842	4	37 394	7
Environmental & Life Sciences	47 435	26	183 132 ^(c)	50	230 567	42
Human Communication	1 500	1	1 000	..	2 500	..
Mathematics & Physical Sciences ^(d)	36 430	20	46 452 ^(e)	13	82 882	15
Social Inquiry	-	-	-	-	-	-
Veterinary Studies	75 876	42	88 929	24	164 805	30
Institute for Environmental Science	-	-	23 299	6	23 299	4
Institute for Social Programme Evaluation	-	-	5 490	2	5 490	1
Total	182 793	100	364 144	100	546 937	100

Source: Murdoch University Annual Report for 1978.

- Notes:
- (a) Income received during the year but excluding consulting fees.
 - (b) Australian Research Grants Committee, National Health and Medical Research Council and Education Research and Development Committee.
 - (c) Includes a grant of \$20 000 for recurrent purposes.
 - (d) Includes the Mineral Chemistry Research Unit which accounted for \$64 870 out of the total of \$82 882.
 - (e) Includes grants of \$46 052 for recurrent purposes.

TABLE 3.11

DISTRIBUTION BY ADMINISTRATIVE UNIT OF RESEARCH GRANTS^(a)
 RECEIVED BY MURDOCH UNIVERSITY FROM ALL SOURCES
 FROM 1974 TO FEBRUARY 1979^(b)

Administrative Unit	Research Grants (\$)
Education	96 059
Environmental & Life Sciences	731 786
Human Communication	19 538
Mathematics & Physical Sciences ^(c)	372 090
Social Inquiry	102 735
Veterinary Studies	668 304
External Studies	10 805
Library	8 968
Total	2 010 285

Source: Murdoch University Academic Staff Association submission.

Notes: (a) Not corrected for inflation.

(b) Includes some grants with funds awarded for 1980 and 1981.

(c) Includes Mineral Chemistry Research Unit.

3.23 Other indices of research strength are the number of postgraduate students enrolled and the number of research papers produced by members of staff. In 1979 the number of equivalent full time research higher degree students per full time academic staff member in the School of Environmental and Life Sciences exceeded the number in all other Schools by a factor of about 2. The Committee recognises that overall restrictions on higher degree student load and the University's policies regarding the distribution of higher degree student load between Schools will influence these sorts of figures but, in general, they support the contention that the School of Environmental and Life Sciences has been outstandingly successful in research and postgraduate studies. This conclusion is borne out by an examination of the numbers of publications produced by members of staff in the various Schools. Over the period 1975 to 1978, the mean annual number of research papers per member of academic staff in the Schools of Environmental and Life Sciences and Veterinary Studies has exceeded 2. The School of Mathematical and Physical Sciences had the next highest publication rate, followed by the Schools of Education, Human Communication and Social Inquiry. The Committee concludes from these considerations that while there are individual areas of excellence within a number of other Schools, the Biological Sciences generally (the Schools of Environmental and Life Sciences and Veterinary Studies) show the greatest strength in research and postgraduate studies.

3.24 The University has suggested that, on the basis of postgraduate student numbers, outside research funds attracted, and staff publications, the following areas can be identified as areas of special research strength -

<u>School</u>	<u>Special Research Strength</u>
Education	Curriculum Development
Environmental and Life Sciences	Fish and Estuarine Biology Plant-Microbe Interactions Pollution and Waste Management
Environmental and Life Sciences and Veterinary Studies	Reproductive Studies Trace Element Studies
Human Communication and Social Inquiry	Southeast Asian Studies
Mathematical and Physical Sciences	Mineral Chemistry
Social Inquiry	Psychology of the Ageing
Veterinary Studies	Farm Animal Health

3.25 The University has indicated that very significant research is also being conducted in the areas of Australian Studies, Comparative Medicine, Educational Policy, Evaluation Studies, Surface Physics and Women's Studies.

3.26 The University's research programme is supported by a number of special research facilities and is also enhanced by the activities of a number of research units and institutes. The Mineral Chemistry Research Unit, which has been established for some years now, has been successful in developing new processes for copper extraction and has attracted continued support from the mining industry. The more recently formed research institutes - the Institute for Environmental Sciences and the Institute for Social Programme Evaluation - form a focus for research effort and a channel for research funds. They also provide a means for contract research and consultative services for individuals and groups in the community.

External Studies

3.27 All students admitted to Murdoch University may, regardless of where they live, choose internal study or external study or a mixture of the two modes of teaching and, in general, it is possible for students to move freely between internal and external study. In 1979 some 35 per cent of the University's undergraduate students were taking the major part of their programme in the external mode, while some 46 per cent were taking at least one external semester unit. Murdoch University's high proportion of external students is, in part, an outcome of an

agreement made in 1975 for Murdoch University to assume responsibility for all external university tuition in Western Australia. The University's general publicity normally includes reference to the availability of external studies opportunities and, in 1979, the University carried out a selective advertising programme in South Australia and the Northern Territory where there is no local University external studies provision.

- 3.28 In 1979 some 45 per cent of Murdoch's external students indicated that their home address was within 40 kilometres of the University. While this figure does not give a precise indication of the proportion of Murdoch's external students who were resident within the Perth metropolitan area during term time, it does suggest that a significant number of students chose to enrol on an external basis even though they live within reasonable commuting distance of the University.
- 3.29 Murdoch University treats external studies simply as an alternative mode of study, with the same courses being presented by the same staff, both on campus and off campus. At present, units from the following programmes are available to external students and, as resources permit, the University is progressively developing these programmes towards full external presentation -

<u>School</u>	<u>Programmes</u>
Education	Bachelor of Education Further Teacher Education Initial Teacher Education - Primary Initial Teacher Education - Secondary Diploma in Education
Environmental and Life Sciences	Population and World Resources
Human Communication	Comparative Literature Southeast Asian Studies
Mathematics and Physical Sciences	Mathematics Mineral Science, Energy and Resources Physics
Social Inquiry	Economics History Social and Political Theory
-	General Studies

- 3.30 Table 3.12 shows external university and advanced education enrolments in Western Australia for the period 1975 to 1979. As the table shows, there has been quite rapid growth over the period with Murdoch University and Mount Lawley College accounting for most of the increase.

TABLE 3.12
EXTERNAL UNIVERSITY AND ADVANCED EDUCATION ENROLMENTS,
WESTERN AUSTRALIA, 1975-79

Institution	1975	1976	1977	1978	1979
Murdoch	157	461	538	735	785
UWA	353	37	58	41	32
WAIT	1 121	1 086	1 217	1 252	1 282
Mount Lawley	107	269	447	663	810
Nedlands	10	-	-	33	89
Other Colleges	2	1	-	-	-
Total	1 750	1 854	2 260	2 724	2 998

- 3.31 Both Murdoch University and The Western Australian Institute of Technology offer external courses in a range of fields of study, a number of which overlap. The Mount Lawley College external studies programme is within the Teacher Education field of study and this is also the primary focus of the Nedlands College programme. The Committee understands that Murdoch University has cooperated with the Western Australian Institute of Technology in establishing joint support services for country students and that there has been some rationalising of offerings of external first year Science units between the two institutions.

Cooperative Teaching Arrangements

- 3.32 Murdoch University students may take units at The University of Western Australia or The Western Australian Institute of Technology for credit towards a Murdoch University degree, provided that the unit is approved beforehand by the appropriate Programme Committee. The University of

Western Australia requires Murdoch University to certify that the student will receive credit for the unit. Similarly, Murdoch University will admit any University of Western Australia or Western Australian Institute of Technology students to its units provided that credit certification is provided.

- 3.33 With the exception of a special arrangement whereby students in the Murdoch University's Population and World Resources Programme are required to take a University of Western Australia half unit, use of these arrangements is very limited. In March 1979, seven University of Western Australia and seven Western Australian Institute of Technology students were taking Murdoch University units in Chinese and five students were completing University of Western Australia degrees by taking Murdoch University external units. Six Murdoch University students were enrolled in the half unit Population Economics at The University of Western Australia, five were enrolled in other University of Western Australia units, and twenty were enrolled in Western Australian Institute of Technology units.
- 3.34 While it is possible, by agreement, for Murdoch University staff to teach at other institutions and for staff from other institutions to teach at Murdoch University, the Committee understands that very little interchange of this type has taken place.
- 3.35 Murdoch University has informed the Committee that while useful and workable cooperation can be achieved in some specialised disciplinary areas, it is doubtful of the practicality or desirability of more than small scale operations. Apart from the logistical problems that are involved, it points out that problems of compatibility of pre-requisites, background and intellectual approach may arise and that, in any event, institutions might be unwilling to award degrees to students who take a relatively large number of units at other institutions.

Enrolment Patterns

- 3.36 Chapter 2 of this report presented a broad comparative indication of enrolment trends at all of the higher education institutions in Western Australia. In this section of the report, some more detailed statistics

which indicate trends in new and total equivalent full time students and student load in the various programmes at Murdoch University are presented and discussed. The figures for new and total equivalent full time students indicate trends in the numbers of students enrolling in the various programmes at Murdoch, while the student load figures give an indication of the teaching load carried by the various disciplinary areas. While the data on which the following series of tables is based were made available to the Committee by Murdoch University, some of the information contained in the tables differs in some respects from the information contained in regular collections of new and total student numbers. In particular, as indicated by footnote (a) to the tables, the numbers of new students are under-estimated to the extent that other than higher degree students changing from one programme to another and higher degree students who were previously enrolled as Murdoch University other than higher degree students or who transfer from one higher degree programme to another are excluded.

- 3.37 Details of new and total equivalent full time students and student load at Murdoch University for the period 1975 to 1979 are shown in Table 3.13. As the table indicates there have been some quite marked changes in enrolment patterns at Murdoch University since it opened in 1975. The numbers of new equivalent full time other than higher degree students peaked in 1976 and, while there was a slight upturn again in 1978, numbers fell sharply in 1979. This sharp reduction in 1979 is reflected in the smaller number of students enrolled in Part I programmes, and a small reduction in other than higher degree student load. The table suggests that numbers of new equivalent full time higher degree students have remained relatively steady since 1977. However, this series of tables does not include as new higher degree students those students who were previously enrolled for a Murdoch University undergraduate programme. It seems likely that the numbers of such students would have increased in recent years. In this context, total equivalent full time higher degree students have increased steadily over the period and this trend has been reflected in movements in higher degree student load.
- 3.38 In its first four years of operation, Murdoch University operated an annual admissions system which resulted in almost all of its undergraduate students being admitted in the first semester. In 1979, the

TABLE 3.13

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b)
AND STUDENT LOAD^(b), MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	446	687	601.5	639.5	523.5
	Higher Degree	31.5	18.5	37	39.5	40
	Total	477.5	705.5	638.5	679	563.5
Total EFT Students	Part I ^(d)	446	685.5	685.5	866.5	755
	Part II ^(e)	-	394.5	700	741.5	823
	Higher Degree	31.5	43.5	67	104	118.5
	Total	477.5	1123.5	1452.5	1712	1696.5
Student Load (WSU's)	Other than Higher Degree	489	1028	1380	1533	1511
	Higher Degree	62	92	129	203	229
	Total	551	1120	1509	1736	1740

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

University conducted an organised mid year intake operation partly, the Committee understands, in response to the short fall in the numbers of new students admitted at the beginning of the year. This operation proved to be successful, and some 112 new students (14 full time, 59 part time and 39 external) were admitted. It is not known at this stage whether this mid year intake will have any effect on the 1980 first semester intake or not. It may be, however, that at least some of the students who were admitted in mid 1979 were students who would have applied for admission in 1980, and that the 1980 first semester intake will be correspondingly smaller. The reference date for tables in this report is 30 April and, accordingly, the tables exclude details of students admitted in the middle of 1979.

- 3.39 As might be expected, the various programmes offered by Murdoch University have experienced somewhat different fluctuations in enrolment patterns since the University opened. These enrolment patterns are discussed in paragraphs 3.40 to 3.73 below in the context of the higher education system in Western Australia.

Economics

- 3.40 Details of enrolments in Murdoch University's Economics programme are shown in Table 3.14. Commencing student numbers have remained small but relatively constant over the period 1975 to 1979, and there has been some growth in Part II enrolments, although other than higher degree student load fell in 1979. The Murdoch University Economics programme has five principal areas of emphasis: Regional and Urban Economics, Economic History, Economic Development, Political Economy and Resource and Environmental Economics. It differs significantly from The Western Australian Institute of Technology and Churchlands College programmes in Business Studies and The University of Western Australia programme in Commerce, but has some similarities with The University of Western Australia programme in Economics.
- 3.41 The Murdoch programme enrolls far fewer students than the various other programmes in Economics and Commerce. Equivalent full time students in Economics and Commerce programmes in other institutions in 1979 totalled 2 111 at The Western Australian Institute of Technology, 960 at The University of Western Australia, and 632 at Churchlands

TABLE 3.14

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND
STUDENT LOAD^(b) IN ECONOMICS, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	22.5	20.5	23.5	22	19.5
	Higher Degree	-	0.5	1	2	0.5
	Total	22.5	21	24.5	24	20
Total EFT Students	Part I ^(d)	22.5	27.5	33.5	34.5	32
	Part II ^(e)	-	14.5	18	15	23
	Higher Degree	-	0.5	1	3	1
	Total	22.5	42.5	52.5	52.5	56
Student Load (WSU's)	Other than Higher Degree	n.a.	39	60	64	51
	Higher Degree	n.a.	-	2	6	2.5
	Total	n.a.	39	62	70	53.5

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

College. Some 300 of The University of Western Australia students were enrolled for Economics courses. Enrolments in higher degree programmes at Murdoch University have remained small.

Education

- 3.42 Details of enrolments in Murdoch University's Education programme are shown in Table 3.15. The School of Education offers pre-service and post-experience courses in Primary and Secondary Teacher Education and also offers a coursework master of education degree in addition to research higher degrees. As the table shows, there have been quite substantial reductions in the numbers of students commencing other than higher degree courses in Education since 1977, and this is reflected in reductions in Part II enrolments and in other than higher degree student load.
- 3.43 Tables 3.16 and 3.17 detail students commencing other than higher degree pre-service and post-experience Teacher Education courses in Western Australia by institution for the years 1975 to 1979. The tables show quite clearly the reductions that have occurred in intakes into pre-service courses and the expansion that has taken place in The Western Australian Institute of Technology and the Colleges in the post-experience field over the last few years in Western Australia.

TABLE 3.15

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND
STUDENT LOAD^(b) IN EDUCATION, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	95.5	165.5	161	133	96
	Higher Degree	2.5	3.5	12	7.5	10
	Total	98	169	173	140.5	106
Total EFT Students	Part I ^(d)	95.5	119	105.5	102	100.5
	Part II ^{(e)(f)}	-	132	234.5	266	208
	Higher Degree	2.5	6	17	26.5	32.5
	Total	98	257	357	394.5	341
Student Load (WSU's)	Other than Higher Degree	111	149	256	245	211
	Higher Degree	4	12	32	45	55.5
	Total	115	161	288	290	266.5

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Includes Diploma in Education.

TABLE 3.16

STUDENTS COMMENCING OTHER THAN HIGHER DEGREE
 PRE-SERVICE TEACHER EDUCATION COURSES^(a) BY INSTITUTION, 1975-79

Area	Institution	1975	1976	1977	1978	1979
Early Childhood	WAIT	96	102	65	74	63
	Churchlands	80	74	80	78	78
	Sub-Total	176	176	145	152	141
Primary	Murdoch	55	78	42	47	34
	UWA	9	29	31	25	27
	WAIT	102	112	85	74	62
	Colleges	1299	919	891	748	760
	Sub-Total	1465	1138	1049	894	883
Secondary	Murdoch	77	96	90	61	73
	UWA	312	235	234	203	155
	WAIT	144	171	121	104	109
	Nedlands	532	443	453	522	476
	Sub-Total	1065	945	898	890	813
Total		2706	2259	2092	1936	1837

Note: (a) Pre-service Teacher Education courses are those courses which provide a basic teaching qualification for those students who have never held a qualification to teach.

TABLE 3.17

STUDENTS COMMENCING OTHER THAN HIGHER DEGREE
 POST-EXPERIENCE TEACHER EDUCATION COURSES^(a) BY INSTITUTION, 1975-79

Area	Institution	1975	1976	1977	1978	1979
Early Childhood	WAIT	26	10	11	23	19
	Churchlands	3	3	17	19	29
	Sub-Total	29	13	28	42	48
Primary	Murdoch	-	19	45	42	19
	UWA	9	5	1	2	6
	WAIT	10	52	62	112	116
	Colleges	405	535	1180	918	1130
	Sub-Total	424	611	1288	1074	1271
Secondary	Murdoch	-	33	63	76	61
	UWA	164	111	81	62	47
	WAIT	17	75	69	93	107
	Nedlands	-	-	110	114	149
	Sub-Total	181	219	323	345	364
Total		634	843	1639	1461	1683

Note: (a) Post-experience Teacher Education courses are those courses which provide an upgrading of an existing teaching qualification and which are teacher in-service courses.

- 3.44 Enrolments and student load in higher degree programmes in Education have increased substantially at Murdoch University over the period, reflecting, in part, the introduction of a coursework master's degree programme in 1977. The University of Western Australia also offers a coursework master's degree in Education together with research higher degrees and a master's programme in Science Education. The Western Australian Institute of Technology offers a postgraduate diploma programme in Curriculum and Educational Technology and a number of postgraduate diploma and master's degree programmes in Science Education. The Committee understands that considerable discussion has taken place recently regarding proposals to develop a coursework master's degree in Education and a more extensive range of Science Education programmes at the higher degree level at the Institute.

Comparative Literature

- 3.45 Details of enrolments in Murdoch University's Comparative Literature programme are shown in Table 3.18. This programme involves a study of literatures of the world using a comparative approach. Other than higher degree student numbers have fallen somewhat since 1976 and student load peaked in 1977. There has been continued activity at the higher degree level.
- 3.46 It is difficult to compare the Murdoch Comparative Literature programme with the programmes in English offered by The University of Western Australia and The Western Australian Institute of Technology because of differences in the nature of the respective programmes and also because of the problems of obtaining comparable statistical data. The University of Western Australia's English Department had a student load of 483 WSU's in 1979 compared to a student load of 112 WSU's in Comparative Literature at Murdoch University. Student load in English at The University of Western Australia increased from 325 WSU's in 1970 to 483 WSU's in 1975. It then peaked at 560 WSU's in 1977 and has since fallen by some 40 WSU's in each of the years 1978 and 1979. The student load measure for The Western Australian Institute of Technology is not comparable but the Institute's Department of English enrolled some 400 equivalent full time students in 1979 compared with 95

TABLE 3.18

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN COMPARATIVE LITERATURE, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	29	29	27	38.5	26.5
	Higher Degree	4	1.5	1	0.5	3
	Total	33	30.5	28	39	29.5
Total EFT Students	Part I ^(d)	29	35.5	37.5	56.5	52
	Part II ^(e)	-	17	34	31	40
	Higher Degree	4	5	4.5	3.5	3
	Total	33	57.5	76	91	95
Student Load (WSU's)	Other than Higher Degree	n.a.	85	102	123	106
	Higher Degree	n.a.	12	8	7	6
	Total	n.a.	97	110	130	112

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

equivalent full time students in the Murdoch programme. The number of equivalent full time students in English courses at the Institute grew rapidly from 30 in 1970 to 305 in 1975. Numbers fluctuated around the 350 mark in each of 1976, 1977 and 1978 before increasing to 411 in 1979. The Committee understands that a proposal from The Western Australian Institute of Technology for the introduction of a master's degree programme in English in a limited range of areas is in the process of being considered.

Communication Studies

- 3.47 Murdoch University also offers a Communication Studies programme and Table 3.19 contains details of enrolments and student load in this area. The programme is presently under review and, as the table shows, only a limited number of new students has been admitted since 1977. New students who do enter the programme are informed that the availability of second and later year units in this programme is under review. The Committee understands that there are some similarities between aspects of this programme and aspects of some of the courses offered by The Western Australian Institute of Technology's Department in English. There have been no enrolments in higher degree courses in Communication Studies over the period.

Asian Studies

- 3.48 Tables 3.20 and 3.21 contain details of enrolments in Murdoch University's Chinese Studies and Southeast Asian Studies programmes. It needs to be emphasised at the outset that while both programmes are offered by the School of Human Communication, they are based on somewhat different approaches. The Chinese Studies programme focusses on the study of the Chinese language and culture whereas the Southeast Asian Studies programme provides opportunities for studies in language (Malay), literature and culture, history, politics and society. Language study is not compulsory and studies in literature, history and politics focus on the understanding of the rapid social and cultural change within contemporary Southeast Asia. As the tables show, enrolments in the two programmes are small and there has been a downturn in the number of students commencing other than higher degree programmes. The tables

TABLE 3.19

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN COMMUNICATION STUDIES, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	42.5	56.5	1.5	-	14
	Higher Degree	-	-	-	-	-
	Total	42.5	56.5	1.5	-	14
Total EFT Students	Part I ^(d)	42.5	63	13.5	4.5	15
	Part II ^(e)	-	26.5	30	17	6
	Higher Degree	-	-	-	-	-
	Total	42.5	89.5	43.5	21.5	21
Student Load (WSU's)	Other than Higher Degree	n.a.	64	60	56	23
	Higher Degree	n.a.	-	-	-	-
	Total	n.a.	64	60	56	23

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

TABLE 3.20

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN CHINESE STUDIES, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	13	10	11	7.5	5
	Higher Degree	-	-	-	-	-
	Total	13	10	11	7.5	5
Total EFT Students	Part I ^(d)	13	11	12	14	9
	Part II ^(e)	-	10	18	11	9
	Higher Degree	-	-	-	-	-
	Total	13	21	30	25	18
Student Load (WSU's)	Other than Higher Degree	n.a.	20	30	22	33 ^(f)
	Higher Degree	n.a.	-	-	-	-
	Total	n.a.	20	30	22	33

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled at Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Includes 13 WSU's in language units.

TABLE 3.21

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN SOUTHEAST ASIAN STUDIES, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	6.5	11	12.5	18.5	13.5
	Higher Degree	0.5	-	-	1	1
	Total	7	11	12.5	19.5	14.5
Total EFT Students	Part I ^(d)	6.5	12	13.5	29	29
	Part II ^(e)	-	7	11.5	14.5	19
	Higher Degree	0.5	0.5	1	0.5	1
	Total	7	19.5	26	44	49
Student Load (WSU's)	Other than Higher Degree	n.a.	27	35	57	58 ^(f)
	Higher Degree	n.a.	1	2	1	2
	Total	n.a.	28	37	58	60

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Includes 11 WSU's in language units.

show that there have been no higher degree students in Chinese Studies and only a small number in Southeast Asian Studies. The Committee understands, however, that the School of Human Communication co-operates with the School of Social Inquiry in supervising higher degree students and that a number of students included in the tables for the various Social Inquiry programmes are, in fact, working in the Asian Studies area.

- 3.49 Programmes in Asian Studies are also offered by The University of Western Australia and The Western Australian Institute of Technology. At The University of Western Australia, work in Asian Studies is undertaken in various departments, principally Anthropology, Economics, Geography and History. In addition to various units or sequences of units which emphasise particular aspects of Asian Studies, the University also offers, through its Economics Department, a major programme in Japanese Studies. The Japanese Studies programme is coordinated through a Japanese Studies Unit which has a staff establishment of five positions. Within the course for the pass degree of Bachelor of Economics, a student may take, along with compulsory units in Economics, Mathematics and Statistics, units in Japanese language and units, in English, dealing with various aspects of modern Japan. Students who complete this course may also enrol for honours in Japanese Studies and, subsequently, for the degree of Master of Japanese Studies. Within the Faculty of Arts, students may take the various language and non-language Japanese Studies units concurrently with another major. Honours courses in Japanese Studies are not available within the Faculty of Arts. Student load in Japanese Studies fell from 40 WSU's in 1975 to 29 WSU's in 1976 and has fluctuated around this lower level since then.

- 3.50 The Western Australian Institute of Technology's School of Social Sciences also offers a major sequence of programmes in Asian Studies through its Department of Asian Studies which has some 11 full time staff. The major concentrations within the Department are languages (Indonesian and Japanese), linguistics and area studies (Politics, History, Anthropology, Art and Religion). Students may major in language, linguistics, area studies or another discipline supported by Asian Studies units. Equivalent full time student numbers in Asian Studies courses increased from 52 in 1970 to 110 in 1975 and 149 in 1978. Commencing student numbers dropped from 73 equivalent full time students in 1978 to 39 equivalent full time students in 1979, while total equivalent full time student numbers fell to 106.

History

- 3.51 The focus of Murdoch University's History programme is on Social History since the eighteenth century. Details of enrolments in the History programme are contained in Table 3.22. Commencing student numbers have fluctuated somewhat since 1975 but, in the main, there has been some growth in total numbers and in student load up until 1978, and in Part II numbers for the whole period. The fall in student load in 1979 would appear to reflect, in part at least, a reduction in enrolments in History units by students majoring in other disciplines. There appears to have been a continuing interest in higher degree programmes in History since the University commenced operations.
- 3.52 Student load in History at The University of Western Australia increased from 315 WSU's in 1970 to 377 WSU's in 1975 and has since fallen to 352 WSU's. Major courses in History at the Institute are offered by the Department of Social Science as part of the degree of Bachelor of Arts in Social Science and must be accompanied by major studies in Sociology.

Psychology

- 3.53 Enrolments in Psychology courses at Murdoch are detailed in Table 3.23. As the table shows, there has been steady growth in undergraduate student numbers and in other than higher degree student load each year until 1979 and there has been substantial growth in the higher degree area in the last two years reflecting, in part, the introduction of a coursework Master's degree in Applied Psychology in 1978. At the undergraduate level, students may complete honours or pass degrees in Arts majoring in Psychology or a four year pass degree in Psychology.
- 3.54 A full range of Psychology courses is also offered at The University of Western Australia. Student load in Psychology increased from 450 WSU's in 1970 to 552 WSU's in 1975 and has fluctuated somewhat since then. At present the student load in Psychology is 516 WSU's.

TABLE 3.22

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN HISTORY, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	26.5	34.5	21.5	26	22.5
	Higher Degree	4	-	1	1	1
	Total	30.5	34.5	22.5	27	23.5
Total EFT Students	Part I ^(d)	26.5	38	30	48	35.5
	Part II ^(e)	-	21	46	44.5	59
	Higher Degree	4	4	3	3	2
	Total	30.5	63	79	95.5	96.5
Student Load (WSU's)	Other than Higher Degree	n.a.	43	71	89	82
	Higher Degree	n.a.	6	4	6	4
	Total	n.a.	49	75	95	86

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

TABLE 3.23

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN PSYCHOLOGY, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	41	48.5	51	65	49.5
	Higher Degree	-	1	1	4	9.5
	Total	41	49.5	52	69	59
Total EFT Students	Part I ^(d)	41	53	67	92.5	73.5
	Part II ^(e)	-	27.5	52	48.5	68
	Higher Degree	-	1	2	9.5	18
	Total	41	81.5	121	150.5	159.5
Student Load (WSU's)	Other than Higher Degree	n.a.	58	76	89	92
	Higher Degree	n.a.	-	2	22	35
	Total	n.a.	58	78	111	127

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

- 3.55 The Western Australian Institute of Technology offers a three year undergraduate programme leading to the award of the degree of Bachelor of Applied Science (Psychology) and a one year postgraduate diploma course in Psychology. Equivalent full time student numbers in the Institute's undergraduate course have increased from 106 in 1975 to 169 in 1979 while numbers in the postgraduate diploma course have fluctuated around 30 to 40.
- 3.56 The Committee understands that some discussions have taken place regarding the possible development of a master's degree programme in Psychology at The Western Australian Institute of Technology and that such a development is being strongly opposed by the two Universities.

Social and Political Theory

- 3.57 Details of enrolments in the Social and Political Theory programme at Murdoch University are shown in Table 3.24. The number of other than higher degree commencing students reached a peak in 1977 and has declined somewhat since then. Total student numbers and student load also peaked in 1977 while enrolments in Part II programmes reached their highest level so far in 1979. It needs to be borne in mind in interpreting this table that the student load attributable to school courses in the School of Social Inquiry is included in the student load for Social and Political Theory.
- 3.58 The aim of the Social and Political Theory programme is to provide students with a grounding in a variety of aspects of contemporary social and political theory, as well as to present a broad range of elective courses which permit students to specialise in one or more areas of applied analysis. The Committee understands that the following main streams of study will be offered in 1980 -
- (a) Non-Industrial Societies - the study of rural societies, the peasantry, and social and political change in the Third World;
 - (b) Industrial Societies - the study of social structures, political power, and the position of women in advanced industrial societies;

TABLE 3.24

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN SOCIAL AND POLITICAL THEORY^(f), MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	24	19.5	29.5	23	21.5
	Higher Degree	3	1	-	1	3
	Total	27	20.5	29.5	24	24.5
Total EFT Students	Part I ^(d)	24	27	48.5	48	26.5
	Part II ^(e)	-	13	40.5	32.5	51.5
	Higher Degree	3	2.5	3	3	6
	Total	27	42.5	92	83.5	84
Student Load (WSU's)	Other than Higher Degree	n.a.	167	204	183	195
	Higher Degree	n.a.	9	9	6	12
	Total	n.a.	176	213	189	207

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) For statistical purposes the student load attributable to school courses in the School of Social Inquiry is included in the student load for Social and Political Theory.

- (c) Ethnicity and Race Relations - the study of theoretical approaches to race relations and ethnic conflict, and their application to Australia, Southeast Asia and Northern Ireland;
- (d) Australian Studies - selected themes in Australian political economy, social history, foreign policy and aboriginal studies.

Individual units within the Social and Political Theory programme may have some similarities to units offered by Departments such as Anthropology and Politics at The University of Western Australia but the programme as a whole appears to be quite different from any of the courses offered by The University of Western Australia. The Social and Political Theory programme appears to be somewhat closer in concept to The Western Australian Institute of Technology Social Science course which consists of a compulsory core of subjects relating to Social Science research techniques, together with major studies in Sociology and one of Anthropology, Economics, Geography, History or Politics. Equivalent full time student numbers in the Institute Social Science Course have declined steadily from 633 in 1976 to 485 in 1979. The Committee understands that the Social and Political Theory programme replaced a programme called Peace and Conflict Studies; it received a number of submissions requesting the reintroduction of the latter.

Biology

- 3.59 Details of enrolments in Murdoch University's Biology programme are shown in Table 3.25. As the table shows, the number of other than higher degree commencing students, although variable, has remained at a relatively high level. There has been consistent growth in Part II programme enrolments, and other than higher degree student load increased each year until 1979. The numbers of students commencing higher degree courses has remained at a relatively high level, and higher degree student load is a significant proportion of total student load.
- 3.60 The Murdoch undergraduate Biology programme is based on an integrated approach involving compulsory core courses in animal and plant Biology, Microbiology, Ecology, Genetics and Biochemistry. To this extent it differs from the various programmes offered by the separate Departments of Botany (114 WSU's in 1979) and Zoology (206 WSU's in 1979) at The University of Western Australia. The Western Australian Institute of

TABLE 3.25

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN BIOLOGY, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	38.5	45	74	57.5	64.5
	Higher Degree	2.5	5	7	6.5	5.5
	Total	41	50	81	64	70
Total EFT Students	Part I ^(d)	38.5	52	96	99.5	87.5
	Part II ^(e)	-	19.5	29	42.5	58.5
	Higher Degree [*]	2.5	6	10	17	18.5
	Total	41	77.5	135	159	164.5
Student Load (WSU's)	Other than Higher Degree	n.a.	75	118	150	133
	Higher Degree	n.a.	17	20	38	37
	Total	n.a.	92	138	188	170

Notes:- (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

Technology's undergraduate programme in Biology emphasises an integrated approach to animal, plant and human biology and, to this extent, is somewhat more similar to the Murdoch approach. More than 100 equivalent full time students were enrolled in the Institute's Biology programme in 1979.

Environmental Science

- 3.61 Details of enrolments in the Environmental Science programme are shown in Table 3.26. Other than higher degree student numbers and student load have increased over the period but the number of commencing students fell sharply in 1979. Significant numbers of students have enrolled for higher degree courses in this area, particularly following the introduction of a coursework master's degree programme in Environmental Science in 1978.
- 3.62 The Environmental Science programme is inter-disciplinary and, at present, emphasis is placed on three specialisations: atmospheric science, waste treatment and environmental management. The course appears to be the only one of its kind in Western Australia.

Population and World Resources

- 3.63 The third programme offered by the School of Environmental and Life Sciences is called Population and World Resources. This is an inter-disciplinary course in the area of human ecology and it combines units from Biology, Environmental Science, Economics, Social and Political Theory and Philosophy. Commencing and total student numbers are shown in Table 3.27. Student numbers have increased up until 1978 but, again, in 1979 there has been a reduction in the numbers of students commencing the programme. The Population and World Resources programme does not appear to have any counterparts at the other institutions.

TABLE 3.26

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN ENVIRONMENTAL SCIENCE, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	26	47.5	41	47	29
	Higher Degree	3	-	4	9.5	4
	Total	29	47.5	45	56.5	33
Total EFT Students	Part I ^(d)	26	44	45	64	56
	Part II ^(e)	-	27.5	44.5	30.5	34.5
	Higher Degree	3	3	6	14.5	15
	Total	29	74.5	95.5	109	105.5
Student Load (WSU's)	Other than Higher Degree	n.a.	43	51	64	73
	Higher Degree	n.a.	4	11	25	31
	Total	n.a.	47	62	89	104

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

TABLE 3.27

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN POPULATION AND WORLD RESOURCES, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	14	12.5	11	23.5	15.5
	Higher Degree	-	-	-	-	-
	Total	14	12.5	11	23.5	15.5
Total EFT Students	Part I ^(d)	14	14	21.5	29	27
	Part II ^(e)	-	10	11.5	17	21.5
	Higher Degree	-	-	-	-	-
	Total	14	24	33	46	48.5
Student Load ^(f) (WSU's)	Other than Higher Degree	..	..	..	..	..
	Higher Degree	..	..	..	..	..
	Total	..	..	..	..	..

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Included with appropriate disciplines.

Chemistry and Mineral Science, Energy and Resources

- 3.64 Details of enrolments in the Chemistry and Mineral Science, Energy and Resources programmes are shown in Table 3.28. The Chemistry programme, which has major streams in Environmental Chemistry and Pure Chemistry, utilises many of the same units and same staff as the Mineral Science, Energy and Resources programme and, accordingly, they are grouped together in the table. The Mineral Science programme emphasises the mineralogy and chemistry of extractive metallurgy.
- 3.65 As the table shows, enrolments in Part II programmes in this area have remained at very low levels and there has been a marked reduction in the number of other than higher degree commencing students in 1979. Other than higher degree student load is somewhat larger than might be expected on the basis of Part I and Part II enrolments reflecting, presumably, the fact that courses in this area are taken by students majoring in other programmes such as Biology, Environmental Science and Veterinary Studies. Higher degree students have been attracted to this area as shown by the numbers of commencing and total students and student load.
- 3.66 Courses in Chemistry are also offered by The University of Western Australia and The Western Australian Institute of Technology. Student load in Chemistry at The University of Western Australia has increased from 336 WSU's in 1975 to 403 WSU's in 1979 while during the same period, equivalent full time student numbers in Chemistry courses at the Institute increased marginally up to about 100. The Institute also offers master's and postgraduate diploma courses in Chemistry, although the numbers enrolled are very small (in 1979, 8 equivalent full time students were enrolled for the Graduate Diploma in Chemistry and 2.5 were enrolled for the Master of Applied Science course in Chemistry). The Institute's School of Mining and Mineral Technology, which operates on the Bentley and Kalgoorlie campuses, offers a range of undergraduate programmes in a number of fields including Extractive Metallurgy, Engineering Metallurgy and Mining Engineering. In 1979 there were 21 equivalent full time students enrolled for bachelor's degree programmes in Extractive Metallurgy, 23.5 in Engineering Metallurgy and 53 in Mining Engineering (including Engineering (Mining)). Sub degree enrolments totalled 4 equivalent full time students in Metallurgy and 21 in Mining Engineering and Mining Technology. In addition, 11

TABLE 3.28

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT
LOAD^(b) IN CHEMISTRY AND IN MINERAL SCIENCE, ENERGY AND RESOURCES,
MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	7	13	13.5	15.5	8.5
	Higher Degree	3	3	4.5	2	-
	Total	10	16	18	17.5	8.5
Total EFT Students	Part I ^(d)	7	12.5	14.5	17.5	18
	Part II ^{(e)(f)}	-	7	11.5	10.5	9
	Higher Degree	3	6	8	8	6.5
	Total	10	25.5	34	36	33.5
Student Load (WSU's)	Other than Higher Degree	n.a.	66	57	64	81
	Higher Degree	n.a.	13	16	16	13
	Total	n.a.	79	73	80	94

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Includes Diploma in Mineral Science.

equivalent full time students were enrolled for the Postgraduate Diploma in Extractive Metallurgy and 1 equivalent full time student (two part time students in fact) was enrolled for the Master of Applied Science in Extractive Metallurgy.

Mathematics

- 3.67 Details of enrolments in Mathematics courses at Murdoch University are shown in Table 3.29. Other than higher degree commencing and Part II student numbers have remained very small over the period although student load has grown to quite substantial proportions reflecting, presumably, the fact that Mathematics units are often prescribed for students undertaking programmes in other disciplines. The number of higher degree students has also remained at a very low level.
- 3.68 The University of Western Australia offers a wide range of units and courses in Mathematics. However, student load in this discipline has declined from 601 WSU's in 1975 to 544 WSU's in 1979. The Western Australian Institute of Technology's Department of Mathematics offers an undergraduate course leading to the degree of Bachelor of Applied Science (Mathematics) and postgraduate diploma courses in Mathematics and Computing. Equivalent full time student numbers have increased from about 140 in 1975 to about 160 in 1979.

Physics

- 3.69 Enrolments in Physics courses at Murdoch University are also relatively small as shown in Table 3.30. Other than higher degree commencing student numbers have fluctuated but have only achieved double figures on one occasion. The Committee understands that the reduction in the number of other than higher degree commencing students in 1979 was due, in part at least, to a number of students deferring their entry to the Physics programme until the middle of the year. Part II programme enrolments have increased somewhat over the period but have remained very small. The other than higher degree student load is somewhat larger than might be expected on the basis of enrolments in the Physics programme reflecting the fact that Physics courses are taken by students majoring in other disciplines. There has been very little postgraduate activity in Physics over the period.

TABLE 3.29

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN MATHEMATICS, MURDOCH UNIVERSITY, 1975-79.

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	4.5	9	9	12.5	14.5
	Higher Degree	2.5	1	-	1	-
	Total	7	10	9	13.5	14.5
Total EFT Students	Part I ^(d)	4.5	9.5	9.5	18.5	17
	Part II ^(e)	-	4.5	10	8.5	14.5
	Higher Degree	2.5	2.5	-	1	1
	Total	7	16.5	19.5	28	32.5
Student Load (WSU's)	Other than Higher Degree	n.a.	67	91	106	106
	Higher Degree	n.a.	5	1	2	2
	Total	n.a.	72	92	108	108

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

TABLE 3.30

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN PHYSICS, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	3	4.5	8.5	12.5	8.5
	Higher Degree	-	0.5	-	-	-
	Total	3	5	8.5	12.5	8.5
Total EFT Students	Part I ^(d)	3	5	10	14.5	16.5
	Part II ^(e)	-	0.5	5	12	14
	Higher Degree	-	0.5	0.5	0.5	0.5
	Total	3	6	15.5	27	31
Student Load (WSU's)	Other than Higher Degree	n.a.	19	54	59	64
	Higher Degree	n.a.	1	1	1	2
	Total	n.a.	20	55	60	66

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

- 3.70 A comprehensive range of Physics courses is offered at The University of Western Australia and student numbers have been increasing in recent years. Student load rose from 237 in 1975 to 255 in 1979. The Western Australian Institute of Technology's Department of Physics offers diploma courses in Diagnostic and Therapeutic Radiography, a Bachelor of Applied Science course in Physics, and a postgraduate diploma and master's degree course in Physics. Equivalent full time student numbers in these various courses have declined slightly from 156 in 1975 to 137 in 1979. In 1979 there were some 18 equivalent full time students enrolled in the master's degree course and 12 equivalent full time students enrolled in the postgraduate diploma course in Physics.

Veterinary Studies

- 3.71 Table 3.31 shows details of enrolments in Murdoch University's Veterinary Studies programme. The programme, the only one of its kind in the State, caters for students from both Western Australia and South Australia. It has had undoubted success in attracting both undergraduate and postgraduate students and has shown steady growth over the five year period.

General Studies

- 3.72 Murdoch University's General Studies programme aims to provide students with a general education which emphasises breadth as well as depth, gives at least an introductory understanding of both scientific and other modes of inquiry, and develops intellectual skills. Details of enrolments in the programme are shown in Table 3.32. As is the case with a number of other programmes, the number of commencing students fell substantially in 1979. The student load generated by this programme is attributed to the appropriate discipline areas which provide courses for the programme.

Other Enrolments

- 3.73 Students entering Murdoch University who do not wish to decide in advance on a programme may enrol in a "Programme Choice Deferred" category. Students may also enrol "Not for Degree" and a limited number of students have been permitted to enrol for units to complete degrees of The University of Western Australia. Details of enrolments

TABLE 3.31

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN VETERINARY STUDIES, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	27	57	53	47	54
	Higher Degree	6.5	1.5	5.5	3.5	2.5
	Total	33.5	58.5	58.5	50.5	56.5
Total EFT Students	Part I ^(d)	27	43.5	47	46	48
	Part II ^(e)	-	48.5	87.5	126	173
	Higher Degree	6.5	6	11	14	13.5
	Total	33.5	98	145.5	186	234.5
Student Load (WSU's)	Other than Higher Degree	25	62	92	140	193
	Higher Degree	9	12	21	28	27
	Total	34	74	113	168	220

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

TABLE 3.32

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN GENERAL STUDIES, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	5	11.5	30	39	13
	Higher Degree	-	-	-	-	-
	Total	5	11.5	30	39	13
Total EFT Students	Part I ^(d)	5	16.5	38.5	63	37.5
	Part II ^(e)	-	8.5	16.5	14.5	14.5
	Higher Degree	-	-	-	-	-
	Total	5	25	55	77.5	52
Student Load ^(f) (WSU's)	Other than Higher Degree	..	..	..	..	..
	Higher Degree	..	..	..	..	..
	Total	..	..	..	..	..

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Included with appropriate disciplines.

in these various types of programmes are contained in Tables 3.33 to 3.35. In all cases the numbers involved are relatively small.

Physical Facilities

- 3.74 Murdoch University is situated on a 232 hectare campus which includes a 40 hectare farm, to serve the needs of the School of Veterinary Studies, and areas of natural bush and wetlands. The University's physical plant now comprises ten major buildings which were completed over the 1973-75 and 1976-78 triennia and cover more than 50 000 square metres. The University has indicated that in its opinion, the obvious next step in the permanent building programme (other than student residences, which are the University's present first priority, and the probable need for Library space), would be to commission an administration block which would release a small amount of space in the Library building and a large amount of space in the West Academic II building, thus providing room for substantial further expansion of non-laboratory disciplines.
- 3.75 One issue which has interested the Committee is the extent to which there is under-utilised physical plant capacity at Murdoch University. In this regard, the Committee has noted that the Universities Commission in its Sixth Report proposed a student load of 2 210 WSU's for Murdoch University for 1978 and also recommended an extensive building programme for Murdoch for the 1976-78 triennium.⁴ It seems to the Committee that it would be reasonable to assume that the building programme which was recommended for 1976-78 would have been intended to provide accommodation for at least the student load of 2 210 WSU's proposed for Murdoch University for the last year of the 1976-78 triennium, and that perhaps some provision for limited student load growth into the first year or so of the following triennium might have been made.
- 3.76 While the Government of the day decided to treat 1976 as a year outside the triennial progression and accordingly did not accept the various recommendations contained in the Sixth Report, the building projects proposed for Murdoch University were subsequently funded on an annual basis and were completed by the end of 1978.

4. *Sixth Report of the Universities Commission*, Universities Commission, Canberra: A.G.P.S., 1975, p.159, 306.

TABLE 3.33

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN PROGRAMME CHOICE DEFERRED, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	20.5	28.5	0.5	12	8
	Higher Degree	-	-	-	-	-
	Total	20.5	28.5	0.5	12	8
Total EFT Students	Part I ^(d)	20.5	39	0.5	27.5	14
	Part II ^(e)	-	-	-	-	-
	Higher Degree	-	-	-	-	-
	Total	20.5	39	0.5	27.5	14
Student Load ^(f) (WSU's)	Other than Higher Degree	..	..	..	..	..
	Higher Degree	..	..	..	..	..
	Total	..	..	..	..	..

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Included with appropriate disciplines.

TABLE 3.34

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
IN NOT FOR DEGREE UNITS, MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	-	8	13	28	33
	Higher Degree	-	-	-	-	-
	Total	-	8	13	28	33
Total EFT Students	Part I ^(d)	-	8	14	34	46.5
	Part II ^(e)	-	-	-	-	-
	Higher Degree	-	-	-	-	-
	Total	-	8	14	34	46.5
Student Load ^(f) (WSU's)	Other than Higher Degree	..	..	..	..	..
	Higher Degree	..	..	..	..	..
	Total	..	..	..	..	..

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

- (i) students previously enrolled as Murdoch University other than higher degree students; or
- (ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Included with appropriate disciplines.

TABLE 3.35

NEW^(a) AND TOTAL EQUIVALENT FULL TIME STUDENTS^(b) AND STUDENT LOAD^(b)
 IN UNIVERSITY OF WESTERN AUSTRALIA DEGREES AND UNITS,
 MURDOCH UNIVERSITY, 1975-79

		1975 ^(c)	1976	1977	1978	1979
New EFT Students	Other than Higher Degree	-	55.5	9.5	11.5	7
	Higher Degree	-	-	-	-	-
	Total	-	55.5	9.5	11.5	7
Total EFT Students ^(f)	Part I ^(d)	-	55.5	28	24	14
	Part II ^(e)	-	-	-	-	-
	Higher Degree	-	-	-	-	-
	Total	-	55.5	28	24	14
Student Load ^(g) (WSU's)	Other than Higher Degree	-	44	23	20	10
	Higher Degree	-	-	-	-	-
	Total	-	44	23	20	10

Notes: (a) New other than higher degree students are students who have not previously been enrolled at Murdoch University. Students who change enrolment from one course to another (including changes from Programme Choice Deferred) are not included in the figures. New higher degree students do not include -

(i) students previously enrolled as Murdoch University other than higher degree students; or

(ii) students who transfer from one higher degree programme to another.

(b) For definitions see Notes on Statistics.

(c) The 1975 new and total student figures are as at the end of 1975. For all other years the reference date is 30 April.

(d) First academic year of undergraduate programmes.

(e) Second and later academic years of undergraduate programmes.

(f) Students taking units for credit towards a degree of The University of Western Australia.

(g) University of Western Australia units offered externally through Murdoch University.

- 3.77 It seems to the Committee, then, that it would not be unreasonable to assume that the physical plant at Murdoch University has a capacity to handle a student load of some 2 200 to 2 300 WSU's, provided that the existing balance between internal and external students is maintained and that the additional students are not concentrated disproportionately in laboratory based disciplines.
- 3.78 On this basis, Murdoch University would appear to have a capacity as it now stands, to increase its student load by some 450 to 550 WSU's. The Committee recognises that the addition of 450 to 550 WSU's would undoubtedly create some pressures on accommodation in specific areas at Murdoch University and would result in a student body somewhat larger than the University itself would wish to see in its existing accommodation.

Committee Observations

- 3.79 A number of issues which emerge from the discussion in this chapter are, in the Committee's view, worth highlighting. These issues are commented on below.
- 3.80 Murdoch University's desire to offer *an alternative path through university education* and to contribute to the diversity of higher education in Western Australia is reflected in the list of beliefs contained in paragraph 3.4 of this chapter and in the statement of educational objectives contained in paragraph 3.5. While all of the beliefs and objectives are worthy of comment, a number serve to highlight the role that Murdoch University has identified for itself.
- 3.81 The University emphasises the importance of a liberal education for all students, including those training for a professional vocation, and stresses the importance of providing generalist as well as specialist programmes in part, to enhance employment prospects in the immediate future. It emphasises the need to identify new fields of study and to devise programmes to deal with them and it stresses its commitment to mature age and to part time and external students.

- 3.82 All of these beliefs or objectives are, in the Committee's view, legitimate, provided that they are kept in perspective and that an appropriate balance is maintained between them and the traditional objectives that are adopted by most universities. For example, a commitment to generalist programmes and inter-disciplinary study should not be at the expense of rigorous study in depth in specific disciplines; effective inter-disciplinary work can only be built on a secure disciplinary base. The provision of courses in "new" fields of study should not prejudice that of the disciplines which form the basis in most universities on which is developed an understanding of man's present knowledge of himself and his world. In this regard small, new universities like Murdoch need to ensure that, in attempting to develop new fields of study, they do not spread their resources too thinly, especially in basic fields in inquiry. From the submissions received, the Committee believes that the University is aware of the need to maintain balance in its spread of academic disciplines.
- 3.83 These questions of balance, important within the University, will also be influential in determining the University's standing within the community. The Committee notes that one of the University's objectives is to respond flexibly to change at all levels and hopes that it will continually review its objectives and educational practices in the light of community expectations, student and staff comments and changes in the employment prospects of graduates.
- 3.84 Murdoch University has consistently attracted higher than average proportions of *mature age students and of part time and external students* and lower than average proportions of school leavers. While it is important that mature age and part time and external students are provided with opportunities for university study, it is equally important that universities attract a reasonable number of full time students in order to provide a satisfying and stimulating environment on campus. It seems to the Committee that the number of full time students on the Murdoch campus is probably a little too small to provide such an environment. The number of mature age entrants fell significantly in 1979 suggesting, perhaps, that the untapped pool of mature age students who want to participate in university education may be getting smaller.

- 3.85 In the Committee's view the most *significant features of the Murdoch University undergraduate programme* relate to the division of courses into Part I and Part II and the provision of compulsory trunk courses. These aspects of the undergraduate programme enhance the opportunities for students to undertake courses from a variety of fields of study before enrolling in a specific programme.
- 3.86 One of Murdoch's major strengths lies in the area of *postgraduate study and research*. There has been a considerable amount of postgraduate study and research activity in most areas within the University and a number of particularly strong and effective research groups has emerged. While there are differences in the availability of support for research in different areas, it is noticeable that the Biological Sciences (Environmental and Life Sciences and Veterinary Studies) have been most effective in attracting extensive research funds, followed by Mathematics and the Physical Sciences (primarily the Mineral Chemistry Research Unit), Social Inquiry and Education. The Committee is impressed that a university as small as Murdoch has been able to make such a major impact in postgraduate study and research in such a short period of time.
- 3.87 Murdoch University's *external studies* operation has developed rapidly and external students constitute a significant proportion of the student body. The Committee applauds the University's approach to external studies which allows the same staff to teach both internal and external students.
- 3.88 It has been suggested to the Committee that there is a potential for substantial growth in external studies programmes in Western Australia and that this growth could lead to significantly larger enrolments at Murdoch University. While this may be the case, the possibility of encouraging such growth raises a host of other important questions, such as -
- (a) To what extent does the University have the capacity to expand in this area?

- (b) What scope is there for further cooperation between Murdoch University and The Western Australian Institute of Technology?
- (c) To what extent, if any, should the external mode be restricted to students who are *unable* to attend classes on campus?
- (d) To what extent, if any, should Murdoch external units be available to students enrolled for courses at The University of Western Australia?
- (e) What range of courses should be available for study by the external mode across the higher education system as a whole?
- (f) To what extent, if any, is there any unfulfilled demand for external studies courses in Western Australia, particularly in rural areas?
- (g) What is the appropriate balance between the numbers of internal and external students enrolled for courses at various types of institutions and particularly at Murdoch University?
- (h) What are the relative costs of offering courses in the internal and external modes?

3.89 These are important and complex questions which require detailed consideration. The Committee does not believe it would be possible to do justice to these questions in the short time it has available and, accordingly, can do no more than draw attention to them. It understands, however that the Western Australian Post Secondary Education Commission is in the process of reviewing the whole question of the provision of external studies in Western Australia and hopes that these questions will be given some consideration in that review.

3.90 At present, very little use is being made of *cooperative teaching arrangements* by Murdoch University and the other higher education institutions in Western Australia. The Committee recognises that there are both practical and philosophical barriers to the extensive development of cooperative teaching arrangements. It believes, however, that recent interest in the development of "contracting" arrangements (whereby one institution might offer approved courses to students in another institution) suggests that further consideration should be given to creating additional opportunities for students to benefit through cooperative teaching arrangements.

- 3.91 The *number of new other than higher degree students* has fluctuated somewhat at Murdoch University since 1975 but, perhaps most significantly, fell sharply in 1979. This is reflected in a reduction in the number of equivalent full time Part I students and a marginal reduction in other than higher degree student load. The number of equivalent full time Part II students increased somewhat in 1979, but could be expected to fall back in 1980 as the smaller number of new Part I students flows through its Part II programmes. The number of new equivalent full time higher degree students has shown no sign of falling over the last three years and this trend is reflected in a steady increase in total equivalent full time higher degree students and in higher degree student load.
- 3.92 The Committee's *analysis of enrolment trends* in the various programmes highlights some important differences. In the first place, some of the discipline areas within Murdoch University have developed into quite substantial operations. At the undergraduate level, the University's relative strengths appear to be in the Biological Sciences (the Biology, Environmental Science, Population and World Resources and Veterinary Studies programmes), Education, Psychology, History, Social and Political Theory and Comparative Literature. Enrolments in Part II programmes in these discipline areas have now reached reasonably substantial proportions and staffing levels appear to be adequate to provide for at least the basic requirements of the disciplines.
- 3.93 On the other hand, there are a number of discipline areas that do not appear to have developed as fully as might have been expected. Part II programme enrolments in Communication Studies, Chinese Studies, Southeast Asian Studies, Economics, Mathematics and the Physical Sciences (Chemistry/Mineral Science, Energy and Resources and Physics) are relatively small and staffing in most of these areas is limited to six or less members of academic staff.
- 3.94 The Communication Studies programme is under review and this presumably accounts for the limited number of enrolments in Part II of the programme. The Committee understands that the University hopes to recast this programme to have a linguistic emphasis.

- 3.95 The Committee understands that discussions regarding the future provision of courses in Asian Studies in Western Australia were initiated between the three institutions involved some time ago, but have not progressed very far to date. It seems to the Committee that Asian Studies is an area that would benefit through a drawing together and pooling of the available resources of the three institutions. Student numbers in the two Murdoch University programmes and in the programmes offered by The University of Western Australia and The Western Australian Institute of Technology are small and there is a substantial degree of overlap in both language and non-language areas.
- 3.96 Murdoch University's Economics programme attracts only a limited number of Part II students and, while the programme's viability is presumably enhanced by its association with other programmes within the School of Social Inquiry, the Committee believes that it is an area which would benefit from some further development.
- 3.97 Enrolments in Part II programmes in Mathematics and the Physical Sciences have remained very small and are a matter for concern. -The Committee finds it difficult to see how viable programmes can be offered to such small groups of students, even allowing for the fact that some students enrolled in Part II programmes in Secondary Teacher Education and in some other areas enrol for some Part II units offered by the School of Mathematical and Physical Sciences. One estimate provided to the Committee suggests that service teaching constitutes 84 per cent of the School's student load. While service teaching is an essential task of most discipline areas, the Committee is a little uneasy about a separate School relying so heavily on service teaching. It should be pointed out, however, that Murdoch University is not the only University in Australia with relatively small enrolments in Mathematics and the Physical Sciences. In 1978, for example, student load in Chemistry in terms of WSU's was 80 at Murdoch (94 in 1979), 105 (including Biochemistry) at James Cook, 110 at Flinders, 114 at Tasmania, 116 at Newcastle and Wollongong, 117 at New England and 121 at the Australian National University. In the same year, student load in Mathematics was 108 at Murdoch (108 in 1979 also), 63 at James Cook, 160 at Griffith, 169 at Flinders, 208 at Tasmania, 234 at Wollongong and 241 at Deakin. Student load in Physics in 1978

was 60 at Murdoch (66 in 1979), 35 at James Cook, 74 at Wollongong, 84 at New England, 86 at the Australian National University, and 119 at Newcastle.

3.98 In general, the Committee's analysis of enrolment trends at the higher degree level highlights the areas of strength that the University has identified and which are mentioned in paragraphs 3.24 and 3.25 of this chapter.

3.99 The analysis contained in this chapter indicates that, *in a general sense, many of the programmes offered by Murdoch University are in competition with programmes or courses offered by the other higher education institutions.* It seems to the Committee that the effects of this competition have been most severe in the following areas where developments have occurred, or major expansion has taken place, since planning for Murdoch University commenced -

- | | |
|-----------------|---|
| Education | - Post-experience primary and secondary courses have been developed at The Western Australian Institute of Technology and the Colleges (see Table 3.17) since 1975 and post-graduate diplomas have been developed at The Western Australian Institute of Technology (1975). |
| Science | - There has been a resurgence of student interest in Physics and Chemistry at The University of Western Australia since 1975 (see paragraphs 3.66 and 3.70). |
| English | - A Bachelor of Arts degree in English has been developed at The Western Australian Institute of Technology (1975). |
| Social Sciences | - A Bachelor of Arts degree in Social Sciences has been developed at The Western Australian Institute of Technology (1973). |
| Psychology | - A Bachelor of Applied Science degree in Psychology has been developed at The Western Australian Institute of Technology (1975). |

Metallurgy - A Bachelor of Applied Science degree in Extractive Metallurgy (1977) and a Graduate Diploma in Extractive Metallurgy (1975) have been developed at The Western Australian Institute of Technology.

3.100 It needs to be borne in mind, however, that the development of Teacher Education at The Western Australian Institute of Technology was in line with the recommendations of the Jackson report and was undertaken after extensive discussions at both the State and Commonwealth levels. Similarly, the expansion of Chemistry and Physics at The University of Western Australia was within the limits of existing physical accommodation and, in fact, was simply a return to higher enrolment levels which had been achieved some years ago. Further, the bachelor's degree courses in English, Social Sciences and Metallurgy at the Institute were developed on the basis of three year associate-ship courses which had been offered for some years previously.

3.101 The Committee has noted that, with the exception of the Bachelor of Applied Science degree in Extractive Metallurgy (which was supported by the Western Australian Post-Secondary Education Commission in 1977), all of the new developments detailed above were supported by the Western Australian Tertiary Education Commission, presumably in the light of expectations regarding growth in the demand for higher education which were very different to the expectations now held.

3.102 To what extent, if any, this competition has limited growth at Murdoch University is difficult to determine. It may simply be that the availability of similar courses elsewhere has been a limiting factor in Murdoch University's development. It may also be that the attractiveness of courses offered by other institutions, or the attractiveness of the other institutions as a whole vis-a-vis Murdoch University, has restricted growth at Murdoch. A number of submissions suggests that the growth that has occurred in enrolments at other institutions has created difficulties for the University.

3.103 It has been drawn to the Committee's attention that in at least one case, Murdoch University has not been as successful in filling its quotas as some other institutions. The Committee understands that,

following a review of the teacher supply and demand situation in Western Australia, the Western Australian Post Secondary Education Commission asked the Colleges and The Western Australian Institute of Technology to reduce intakes into pre-service primary teacher education courses by 10 per cent in 1979. Murdoch University and The University of Western Australia were not asked to reduce intakes into their pre-service primary teacher education courses because of the relatively small size of their programmes. In the event, it appears that Murdoch University was unable to maintain its 1978 intake level while The Western Australian Institute of Technology and all of the Colleges successfully achieved their reduced quota levels.

- 3.104 The Committee is of the view that *student load at Murdoch University could be increased by some 450 to 550 WSU's* without increasing the existing capital plant, provided that the existing balance between internal and external students is maintained and that any additional students are not concentrated disproportionately in laboratory based disciplines.

CHAPTER 4

THE DEMAND FOR HIGHER EDUCATION IN WESTERN AUSTRALIA

- 4.1 The demand for higher education is influenced by two major factors - population changes and the extent to which members of the community wish to participate in higher education. These two factors are discussed below.

Population Changes

- 4.2 Population changes are dependent upon three main factors - fertility rates, mortality rates and migration rates. These three factors can vary significantly within a fairly short period of time resulting in major changes in population projections.
- 4.3 The Australian Bureau of Statistics has recently released four different series of population projections for Australia, States and Territories for the period 1978 to 2021. The Bureau has emphasised that the projections are not intended as predictions or forecasts; they are simply illustrations of population growth which would occur if certain selected assumptions regarding future demographic trends were realised. The assumptions are based on an examination of past demographic trends and survey data on birth expectations, but of course, there is no certainty that these assumptions and expectations will be realised. The Bureau also emphasises that overseas and interstate migration assumptions are set at illustrative levels and do not reflect Bureau estimates of likely future trends. Accordingly, projections including migration (50 000 net per year for Australia as a whole) and excluding migration are provided.
- 4.4 As might be expected, there are quite substantial differences between the various sets of population projections. For Western Australia, the projections of population in the year 2001 range from 1 430 610 to 1 530 000 on the assumption that there will be zero net migration and from 1 800 045 to 1 916 410 on the assumption that there will be net migration of 50 000 per year for Australia as a whole. These differences highlight the sensitivity of the projections to assumptions regarding

the values of a few key variables and emphasise the need for caution in using any particular set of projections as a basis for policy decisions.

4.5 The Australian Bureau of Statistics Series A projections were released in July 1978. The series gained ready acceptance and have become known as the 1978 Australian Projections. The series, including migration, forms the basis of the analysis in the Report of the Williams Committee and also corresponds fairly closely to a set of projections prepared by the Research Section of the Western Australian Treasury. Accordingly, the Committee has accepted the series as providing a reasonable basis for its analysis. The assumptions on which the Series A projections are based are as follows -

- (a) Fertility - Total fertility rates for Australia are assumed to decline from 2 035 in 1977 to a low point of 1 905 in 1979 and to recover to a long term replacement level of 2 110 by 1984. Rates for States and Territories except South Australia and the Northern Territory are allowed to converge to the national rate in 1984.
- (b) Mortality - Infant mortality rates are assumed to continue to decline from the present rates. The assumed rate of reduction is based on the 1966-76 average annual rate of decline, reduced by 1 per cent a year. The 1975-76 average life table mortality rates are assumed to apply throughout the whole projection period for ages 1 and above.
- (c) Migration - Both overseas and interstate migration assumptions are illustrative. Net overseas migration to Australia is set at 50 000 persons per year, representing 80 000 permanent arrivals and 30 000 permanent departures. This illustrative level of overseas migration is apportioned between the States and Territories according to their approximate share of permanent movements in the five year period 1972-76. The assumed levels of interstate movements into and out of each State and Territory are based on experience during the years 1971-78, as estimated from family allowance and electoral roll transfer records. The assumed levels of overseas and interstate migration for Western Australia are as shown in Table 4.1.

TABLE 4.1
ASSUMED LEVELS OF OVERSEAS AND INTERSTATE MIGRATION,
WESTERN AUSTRALIA

	Overseas	Interstate	Total
Inward	10 700	18 000	28 700
Outward	3 800	11 500	15 300
Net	6 900	6 500	13 400

Source: Australian Bureau of Statistics.

- 4.6 In the past, well over half of the students attending higher education institutions in Australia have come from the 17 to 22 year age group and the number of persons of this age in the population has been considered to be one of the major factors affecting the demand for places. In more recent times, however, there has been an increasing involvement of more mature students, particularly those in the 23 to 29 year age group, in higher education. Table 4.2 shows projections of the total population and of the 17 to 22, 23 to 29 and 17 to 29 year age groups for Western Australia for the period 1978 to 2001.

TABLE 4.2
PROJECTED POPULATION, WESTERN AUSTRALIA, 1978-2001

Year	Total Population	17-22 Year Age Group	23-29 Year Age Group	17-29 Year Age Group
1978	1 225 395	130 795	151 092	281 887
1979	1 249 881	133 214	153 916	287 130
1980	1 274 652	135 675	156 892	292 567
1981	1 299 903	137 758	159 736	297 494
1982	1 325 930	139 237	162 651	301 888
1983	1 352 715	140 319	165 629	305 948
1984	1 380 106	141 380	168 631	310 011
1985	1 407 891	142 553	171 546	314 099
1986	1 435 799	144 315	174 195	318 510
1987	1 463 809	147 004	176 510	323 514
1988	1 491 911	150 308	178 470	328 778
1989	1 520 097	153 738	180 026	333 764
1990	1 548 361	156 261	181 535	337 796
1991	1 576 698	157 545	183 212	340 757
1996	1 718 494	152 092	197 366	349 458
2001	1 857 860	161 285	197 686	358 971

Source: Australian Bureau of Statistics.

- 4.7 Two major features emerge from Table 4.2. First, the projections reflect the fact that the age structure of the population is shifting in line with trends that have become evident in other industrialised countries. In particular, the proportion of the population in the older age groups is increasing and this results in the projected proportion of persons aged 17 to 29 in the population declining from 23.0 per cent in 1978 to 19.3 per cent in 2001. Perhaps more importantly though, for this report, significant growth in the 17 to 22, 23 to 29 and 17 to 29 year age groups is projected over the period.
- 4.8 It is also worth noting that in terms of the Australian Bureau of Statistics Series A projections (including migration) population in Western Australia will grow by 51.6 per cent over the period 1978 to 2001 whereas population in Australia as a whole will grow by only 27.2 per cent. Similarly, the 17 to 29 year age group in Western Australia will grow by 27.3 per cent over the period whereas the 17 to 29 year age group for Australia as a whole will grow by only 7.2 per cent.
- 4.9 A substantial proportion of students enter higher education institutions directly from school and, accordingly, the number of students in the later years of secondary school is one of the factors affecting demand for places. The Education Department of Western Australia regularly produces projections of enrolments, and Table 4.3 details projections for Years 10, 11 and 12 for the years 1978 to 1989.
- 4.10 While there are some fluctuations in the figures, the projections indicate that, at least in the short run, there is likely to be some increase in the number of students in Year 12 in secondary schools in Western Australia.

Participation

- 4.11 As mentioned in paragraph 4.1, the level of demand for higher education is also influenced by the extent to which members of the community wish to participate in higher education. Participation in higher education in Australia has increased dramatically over the last thirty years, but in more recent years there has been a slowing down in the

rate of growth or, in some States, a negative rate of growth following Commonwealth government decisions to freeze levels of intakes.

TABLE 4.3

PROJECTED ENROLMENTS IN YEARS 10, 11
AND 12 IN SCHOOLS IN WESTERN AUSTRALIA,
1978-89

Year	Year 10	Year 11 Ordinary (a)	Year 11 Terminal (a)	Year 12
1978 (actual)	21 206	10 273	1 852	7 543
1979	20 858	10 513	2 003	7 783
1980	20 369	10 382	2 078	7 994
1981	20 776	10 233	2 094	7 918
1982	20 963	10 453	2 232	7 832
1983	21 957	10 556	2 353	8 019
1984	22 811	11 048	2 579	8 117
1985	23 415	11 554	2 746	8 511
1986	24 860	11 860	2 956	8 929
1987	23 624	12 620	3 245	9 183
1988	22 524	12 027	3 200	9 815
1989	22 621	11 511	3 149	9 357

Source: Education Department of Western Australia.

Note: (a) The Year 11 terminal figures are for Government schools only. Year 11 terminal students in non-Government schools are included in the Year 11 ordinary figures.

4.12 Table 4.4 contains details of university and advanced education participation rates by level of course and by State for 1977.

4.13 As Table 4.4 indicates, participation in university education in Western Australia in 1977 was somewhat lower than in Australia as a whole, while participation in advanced education was substantially higher. This high participation in advanced education resulted in Western Australia having the second highest participation rate in higher education in Australia. The university participation rate in Western Australia has now fallen from 4.3 to 4.2 per cent and, on the basis of present projections of enrolments, will remain at this level for the remainder of the 1979-81 triennium. The advanced education participation rate has increased from 6.5 to 6.7 per cent and, on the basis of present projections of enrolments, will remain at this level in 1980 and then fall to 6.6 per cent in 1981.

TABLE 4.4
UNIVERSITY AND ADVANCED EDUCATION PARTICIPATION
RATES^(a) BY LEVEL OF COURSE AND BY STATE, 1977

	NSW	VIC	QLD	SA	WA	TAS	AUST ^(b)
<u>University</u>							
Postgraduate diploma and higher degree	1.0	0.8	0.6	0.9	0.7	0.5	0.9
Bachelor's degree	4.7	3.9	3.9	3.6	3.5	3.3	4.1
Sub-degree	0.1	0.2	0.1	0.2	0.1	0.1	0.2
Total	5.8	4.9	4.6	4.7	4.3	3.9	5.1
<u>Advanced Education</u>							
Postgraduate diploma and master degree	0.2	0.6	0.2	0.5	0.6	0.2	0.4
Bachelor's degree	0.9	2.5	1.6	1.5	3.2	2.5	1.8
Diploma	1.7	2.6	1.6	2.8	2.4	0.2	2.0
Associate Diploma	0.2	0.3	0.4	0.6	0.3	-	0.3
Total	3.1	6.0	3.8	5.3	6.5	2.9	4.5

Source: *Education, Training and Employment.*

Notes: (a) The participation rate is the ratio (expressed as a percentage) of enrolments to the number of persons in the population aged 17-29 years. This population group was selected as a base as over 80 per cent of all university and advanced education enrolments in Australia are within this age group.

(b) Includes Northern Territory and Australian Capital Territory.

The Demand for Higher Education

4.14 The projections of population and school leavers outlined in the earlier part of this chapter suggest that there may be some increase in the level of demand for higher education in Western Australia over the period 1978 to 2001. It is difficult, however, to assess likely community attitudes to participation in university and advanced education courses. In addition, there must be some doubts regarding the likelihood of additional funds being made available to enable any increases in demand to be met, particularly in a State which already has a high level of participation in higher education.

4.15 Bearing in mind these qualifications it is worth noting that if -

- (a) participation rates remain at the levels projected for 1981 (i.e. 4.2 for university education and 6.6. for advanced education);

- (b) the 17 to 29 year age group grows at the rate suggested in Table 4.1; and
- (c) resources are made available to meet increases in demand;
- then university and advanced education student numbers in Western Australia will increase as shown in Table 4.5.

TABLE 4.5
POSSIBLE INCREASES IN UNIVERSITY AND ADVANCED
EDUCATION ENROLMENTS, WESTERN AUSTRALIA, 1979-2001

	Enrolments		
	University	Advanced Education	Total
1979	12 000 + 495	19 361 + 274	31 361 + 769
1981	12 495 + 525	19 635 + 826	32 130 + 1 351
1984	13 020 + 568	20 461 + 891	33 481 + 1 459
1987	13 588 + 724	21 352 + 1 138	34 940 + 1 862
1991	14 312 + 365	22 490 + 574	36 802 + 939
1996	14 677 + 400	23 064 + 628	37 741 + 1 028
2001	15 077	23 692	38 769

- 4.16 It should be noted that the relatively small increase in advanced education enrolments between 1979 and 1981 results from the assumption that the advanced education participation rate will fall from 6.7 per cent in 1979 to 6.6 per cent in 1981 in accordance with planned student load target figures. The cumulative increases in enrolments that would be generated by the application of the assumptions detailed in paragraph 4.15 are shown in Table 4.6.

TABLE 4.6

POSSIBLE CUMULATIVE INCREASES IN UNIVERSITY AND
ADVANCED EDUCATION ENROLMENTS, WESTERN AUSTRALIA, 1979-2001

	Cumulative Increases in Enrolments		
	University	Advanced Education	Total
1979	-	-	-
1981	495	274	769
1984	1 020	1 100	2 120
1987	1 588	1 991	3 579
1991	2 312	3 129	5 441
1996	2 677	3 703	6 380
2001	3 077	4 331	7 408

- 4.17 In this context the Committee is a little puzzled as to why the possible increases in university student numbers detailed above differ so markedly from the Williams Committee's second projection of additional university students in Western Australia. The Williams Committee¹ mentions a projected increase of 1600 in university student numbers over the period 1977 to 1991 whereas the data contained in Table 4.6 suggest an increase of 2 312 for the period 1979 to 1991.
- 4.18 It is not readily apparent to the Committee why the application of the 1979 university participation rate (which is marginally lower than the 1977 rate) to the Australian Bureau of Statistics projections of the 17 to 29 year age group should produce a figure which is substantially greater than the Williams Committee's second projection of student numbers. The Williams Committee's second projection is presumably based on the same population projections and somewhat similar assumptions.² The Committee

1. *Education, Training and Employment*, Vol. 1, p. 186.

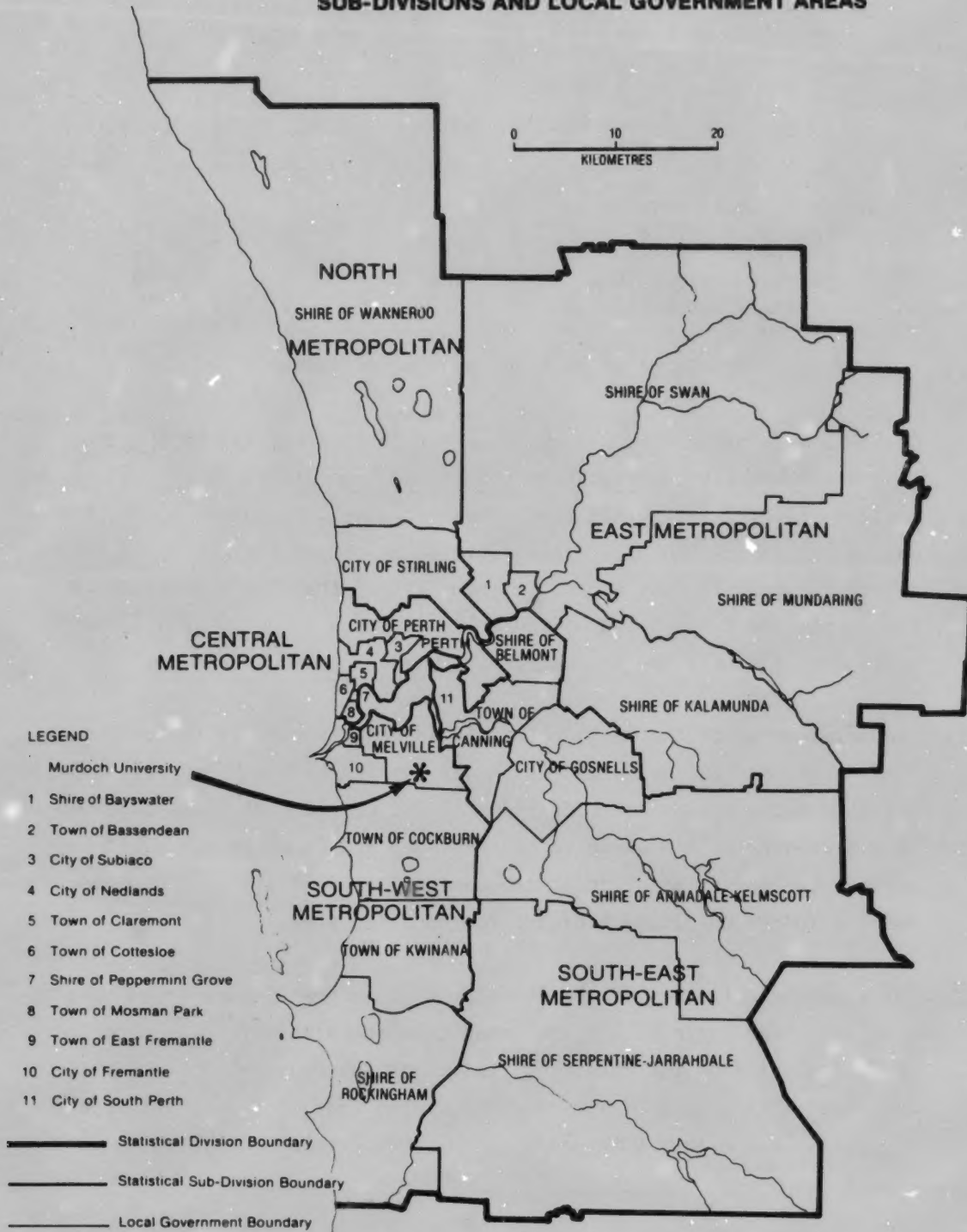
2. The Williams Committee's second projections of student numbers assume, inter alia, that the final year secondary school retention rate remains at the 1977 level of 35.3 per cent to 2001 and the proportion of students proceeding directly to university or CAE study remains at the 1977 level of 54.3 per cent. In effect these assumptions mean that the proportion of any school cohort proceeding to university and CAE is assumed to remain constant at the 1977 level (19.2 per cent) until 2001 with the projection reflecting demographic movements. The number of 'indirect' commencers is assumed to grow with the population aged 20-40 years for the university sector and at 1 per cent per annum over and above growth in the population aged 20-40 for the advanced education sector. See *Education, Training and Employment*, Vol. 1, p.52.

has not been able to ascertain the reason for the difference between the Williams Committee's projections and the figures detailed in Table 4.6. It can, therefore, do no more than draw attention to the disparity between the two sets of figures.

Population Growth Within the Perth Metropolitan Area

- 4.19 The future level of demand for places at the various higher education institutions in Western Australia will, to some extent, be influenced by shifts in the distribution of the population between metropolitan and country areas and changes in the distribution of the population within the Perth metropolitan area.
- 4.20 In 1976 some 70.1 per cent of the population of Western Australia resided within the Perth Statistical Division. According to the latest estimates produced by the State Treasury, this proportion is likely to increase to 73.6 per cent in 1989. While it is difficult to draw any definitive conclusions from this trend, it seems likely that an increase in the proportion of the population living within the metropolitan area may lead to some increase in demand for places at higher education institutions which are also located within the metropolitan area.
- 4.21 The distribution of population within the metropolitan area is also influential in determining the demand for places at higher education institutions. The Perth metropolitan area is subdivided into five Statistical Sub-Divisions as detailed in Figure 4.1. Table 4.7 shows the geographic origin of students whose home residence was within the Perth metropolitan area and who were attending Murdoch University or The Western Australian Institute of Technology in 1979 or The University of Western Australia in 1978.

**PERTH STATISTICAL DIVISION — STATISTICAL
SUB-DIVISIONS AND LOCAL GOVERNMENT AREAS**



SOURCE: AUSTRALIAN BUREAU OF STATISTICS

FIG 4.1

TABLE 4.7

GEOGRAPHIC ORIGIN^(a) OF STUDENTS WHOSE HOME RESIDENCE WAS IN THE PERTH METROPOLITAN AREA AND WHO WERE ATTENDING MURDOCH UNIVERSITY OR THE WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY IN 1979 OR THE UNIVERSITY OF WESTERN AUSTRALIA IN 1978

Statistical Sub-Division	Murdoch %	UWA %	WAIT %
North Metropolitan	12	21	20
Central Metropolitan	18	38	19
East Metropolitan	11	12	16
South-East Metropolitan	26	15	29
South-West Metropolitan	33	14	16

Note: (a) Based on postcode of home residence.

- 4.22 As Table 4.7 indicates, Murdoch University relies heavily on the South-West and South-East Metropolitan Statistical Sub-Divisions for its students. It seems likely, then, that population growth within these Sub-Divisions may be influential in determining levels of demand for places at Murdoch in the future. In this regard it seems likely that the regions which constitute the Perth metropolitan area will grow at somewhat different rates over the next twenty years.
- 4.23 The development of the Perth metropolitan area is heavily influenced by "The Corridor Plan for Perth" which was adopted by the Metropolitan Region Planning Authority in November 1970.³ The Corridor Plan was intended to be a framework within which future regional and local growth could be implemented and it still forms the basis of current official planning for the future development of the metropolitan area.
- 4.24 The essential strategy of the Corridor Plan is that future urban development will take place within the urban core and within four corridors radiating out from the core, and that major sub-regional centres will be developed within each of the corridors. The four corridors lie essentially within the four outer Statistical Sub-Divisions detailed in Figure 4.1.

3. *The Corridor Plan for Perth*, Report prepared for the Metropolitan Region Planning Authority, Perth: M.R.P.A., 1970.

4.25 One of the problems that arises in attempting to examine population trends in finer detail relates to the inadequacy of available statistics. Neither the State Treasury nor the Australian Bureau of Statistics attempts to project population by Statistical Sub-Division or Local Government Area. However, a report which was published in January 1979 on the Armadale Sub-Regional Centre⁴ contains projections of the population by Local Government Area Group for the Perth Metropolitan Area up to the year 2001. These projections are detailed in Table 4.8 and are shown graphically in Figure 4.2.

TABLE 4.8

POPULATION DISTRIBUTION BY LOCAL GOVERNMENT AREA GROUP^(a),
PERTH METROPOLITAN AREA, ESTIMATED 1971 AND 1976, PROJECTED^(b)
1981 - 2001

L.G.A. GROUP	1971	1976	1981	1986	1991	1996	2001
North	299 775	340 276	391 500	452 400	523 000	605 200	700 400
South	135 180	144 709	163 100	186 100	213 700	243 000	279 100
East	101 683	119 929	140 000	164 500	192 400	224 600	262 200
South-East	166 561	200 584	236 800	279 200	328 100	384 000	450 000
Total	703 199	805 489	932 200	1 082 200	1 257 200	1 458 400	1 691 700

Source: Armadale Sub-Regional Centre Report.

Notes: (a) The L.G.A. Groups are made up as follows -

North - North Metropolitan and Central Metropolitan Statistical Sub-Divisions excluding that part of the City of Perth which is south of the Swan River.

South - South-West Metropolitan Statistical Sub-Division.

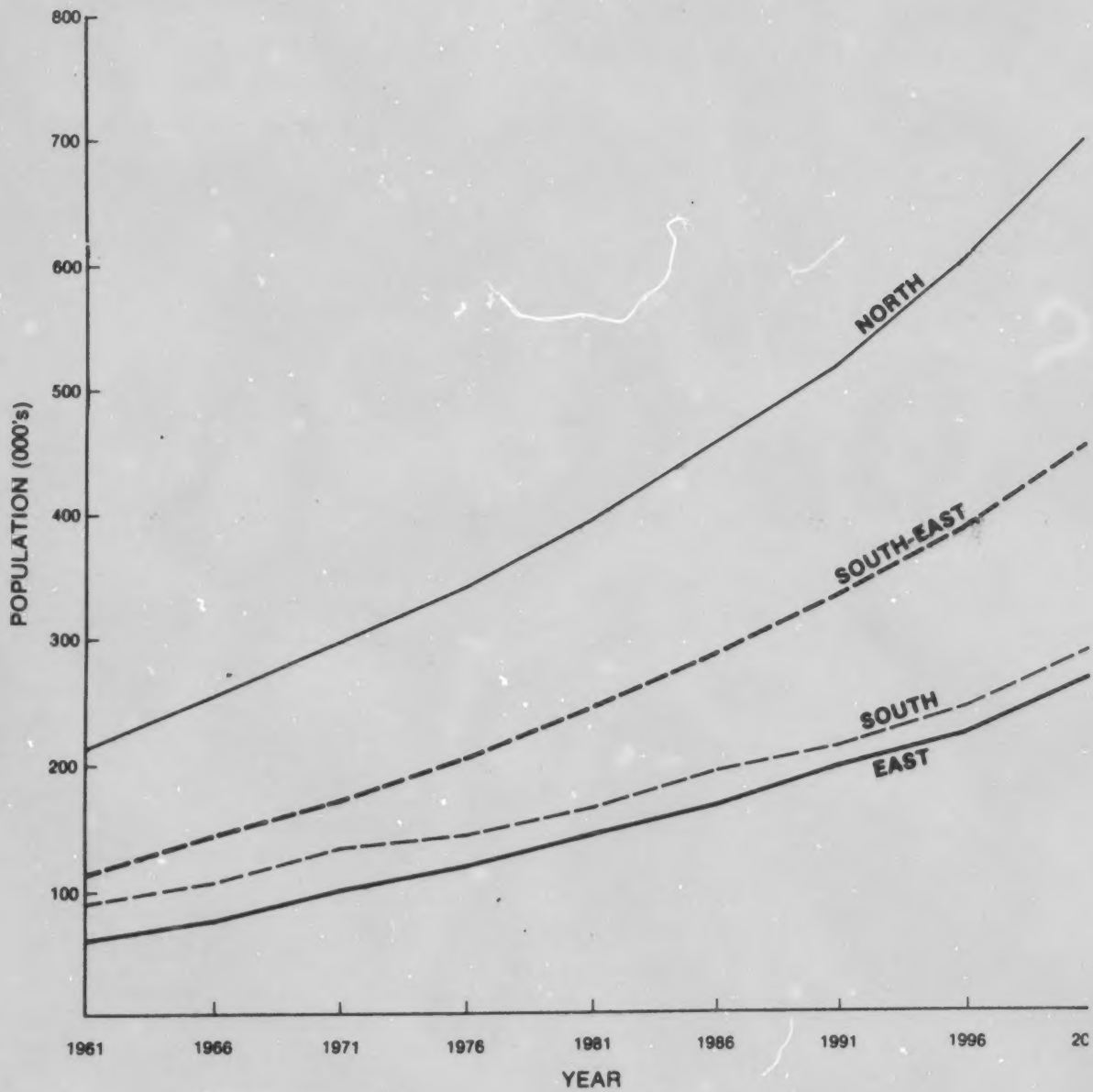
East - East Metropolitan Statistical Sub-Division

South-East - South-East Metropolitan Statistical Sub-Division and that part of the City of Perth which is south of the Swan River.

(b) Assumes net migration of 16 000 a year.

4. *Armadale Sub-Regional Centre*, Report prepared for the Metropolitan Region Planning Authority in association with and on behalf of the Government of Western Australia and the Shire of Armadale-Kelmscott by Parry and Rosenthal in association with Planning Collaborative and Uloth and Associates, Perth: M.R.P.A., 1979.

**PERTH METROPOLITAN REGION — POPULATION
TRENDS AND PROJECTIONS BY LOCAL GOVERNMENT
AREA GROUP, 1961-2001**



SOURCE: ARMADALE SUB-REGIONAL CENTRE REPORT

FIG 4.2

- 4.26 Some caution must be exercised in interpreting these projections as they are based on somewhat more optimistic assumptions than those on which the Australian Bureau of Statistics projections are based. They do, however, serve to highlight the fact that the rate of development in the North Metropolitan and South-East Metropolitan Statistical Sub-Divisions is likely to proceed at a faster rate than the rate of development in the East Metropolitan and South-West Metropolitan Statistical Sub-Divisions and that there is likely to be a substantial increase in population within the metropolitan area by the turn of the century.

Committee Observations

- 4.27 On the basis of the assumptions listed in paragraph 4.15 of this Chapter regarding participation rates, population growth and the availability of resources, it could be expected that *there will be increases in university and advanced education enrolments* in Western Australia over the period 1979 to 2001. By 1984 there could be 2 120 additional students comprising 1 020 in the university sector and 1 100 in the advanced education sector. By 1991 there could be 5 441 additional students (2 312 in the university sector and 3 129 in the advanced education sector) and by 2001 there could be 7 408 additional students (3 077 in the university sector and 4 331 in the advanced education sector). These projections of additional student numbers are supported to some extent by independent projections of enrolments in Years 10, 11 and 12 in secondary schools in Western Australia over the period 1978 to 1989 (see paragraph 4.10).
- 4.28 It needs to be borne in mind that *the Committee's projections of additional students are based on assumptions which may or may not turn out to be appropriate*. The community's propensity to participate in either or both of university and advanced education may exceed or fall short of the assumed rates. Indeed there does seem to be some evidence to suggest that, across Australia, there is a slackening in the demand for university education, while in Western Australia the evidence seems to suggest a somewhat higher level of demand for advanced education than for university education. In addition, deliberate action at the State and/or Commonwealth levels could result in

changes in either or both the university and advanced education participation rates. The population projections on which the Committee has based its analysis incorporate relatively substantial increases in the 17 to 29 year age group in Western Australia. It needs to be emphasised that the projections for the 17 to 29 year age group up to the year 2001 will not be altered greatly by changes in fertility or mortality rates that might occur over the period. They would, however, be somewhat more sensitive to variations from the assumed levels of overseas and interstate migration. It is difficult to predict whether additional resources will be made available to provide for the additional students projected.⁵ It is anticipated that Western Australia will grow at a much faster rate than the rest of Australia and, accordingly, could expect to be provided with some additional resources. On the other hand, participation in higher education in Western Australia is already at a high level compared with the rest of Australia, and it could be argued that resources should not be provided to meet additional demand. The Committee believes, however, that the projections of additional higher education students detailed in this chapter provide a reasonable basis for its analysis of potential changes.

- 4.29 At present, *Murdoch University relies heavily on the South-West and South-East Metropolitan Statistical Sub-Divisions for its students.* While it is likely that there will be significant population growth in these two Sub-Divisions over the next twenty years, substantial population growth will also take place in the North Metropolitan Statistical Sub-Division which, at present, provides relatively few of Murdoch's students. Murdoch University may, however, become more accessible to students residing in the North Metropolitan Statistical Sub-Division when the Kwinana Freeway is extended to South Street in the early eighties. Details of this extension are shown in Figure 2.1.

5. There is some preliminary evidence that, for the university system as a whole, *decreased* levels of funds are likely in the 1982-84 triennium, and perhaps beyond.

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5. There is some preliminary evidence that, for the university system as a whole, *decreased* levels of funds are likely in the 1982-84 triennium, and perhaps beyond.

4.30 To summarise it seems to the Committee that -

- (a) The population of Western Australia, and the 17 to 29 year age cohort will grow more rapidly than those for the rest of Australia.
- (b) Western Australia has a relatively low participation rate in university education, but a high participation rate in advanced education.
- (c) By the year 2001, assuming growth in population in the State of some 608 000 and continuation of the same participation rates, there could be about 3 000 additional university students and about 4 000 additional advanced education students. The level of enrolments achieved will be dependent on the availability of additional resources for higher education.
- (d) Considerable population growth is expected in the Southern area of Perth, a "natural catchment area" for Murdoch; this growth will, however, follow an even greater growth in the Northern suburbs of Perth.

CHAPTER 5

MURDOCH UNIVERSITY - THE PRESENT POSITION AND PROSPECTS FOR GROWTH

- 5.1 The Committee considers that the most important features of Murdoch University's development between 1975 and 1979 are the steady general increase in enrolments until 1979, the cessation of growth in 1979, the unusual pattern of undergraduate enrolments and the strength of its research and postgraduate training activities. In the Committee's judgment these various features exhibit both the strengths and weaknesses of the University at present.

Murdoch's Strengths

- 5.2 Murdoch University has grown considerably since it accepted its first intake of undergraduate students in 1975 and growth was sustained over the period 1975 to 1978. There has been a downturn in both commencing and total other than higher degree students in 1979, but most other Australian universities experienced similar setbacks in enrolments. Indeed, Murdoch's shortfall below the minimum of the agreed target range was less than that of eight other universities.
- 5.3 Within the general growth in enrolments, Murdoch University's undergraduate programmes have met with varying degrees of success. The programmes offered in the Biological Science area (Biology, Environmental Science, Population and World Resources and Veterinary Studies) have been strongly attractive to students so that undergraduate enrolments in these programmes now constitute some 32 per cent of all undergraduate enrolments. The strength of Murdoch's undergraduate programmes in the Biological Sciences is complemented by the extensive postgraduate study and research activities being undertaken in these areas (see paragraphs 5.8 and 5.9) and, in the Committee's opinion, the Biological Science group is the major academic strength of the University.
- 5.4 Other areas of relative strength at the undergraduate level are Education, Psychology, History, Social and Political Theory and Comparative Literature. Enrolments in Part II programmes in all of these disciplines have now reached reasonably substantial proportions and staffing levels, while still very small in some areas, appear to be adequate to provide for at least the basic requirements of the disciplines.

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- 5.5 Murdoch University's external studies programmes have also met with success. Student demand (both within Perth and in rural areas) appears to have been sustained and a large proportion (some 75 per cent) of the University's undergraduate programmes is now available on an external basis.
- 5.6 The University has developed considerable strength in postgraduate training and research. This is apparent from examining the numbers of postgraduate students, the value of outside research funds attracted, and the volume of staff publications (see paragraphs 3.22 and 3.23).
- 5.7 Murdoch has a strong postgraduate school. Higher degree student load now constitutes 13.2 per cent of total student load, and the Committee understands that higher degree enrolments would be greater but for the limits imposed by the Universities Council. In addition to the research higher degrees which are available in all fields of study, the University has successfully mounted coursework Master's degree programmes in Applied Psychology, Education and Environmental Science.
- 5.8 The University has been remarkably successful in attracting outside research funds and its output of publications is impressive. While it has to be recognised that it is easier to obtain research funds in some areas than in others, the Committee notes that the Biological Sciences (Environmental and Life Sciences and Veterinary Studies) have been by far the most successful in attracting research funds, followed by Mathematics and the Physical Sciences (primarily the Mineral Chemistry Research Unit), Social Inquiry and Education.
- 5.9 On the basis of postgraduate student numbers, outside research funds attracted, and staff publications, a number of areas of special research excellence can be identified. Within the Biological Sciences there are vigorous research programmes on Fish and Estuarine Biology, Plant-Microbe Interactions, Pollution and Waste Management, Reproductive Studies, Trace Element Studies and Farm Animal Health; in Education, Curriculum Development; in Mathematical and Physical Sciences, Mineral Chemistry; in Human Communication and Social Inquiry, Southeast Asian Studies; and in Social Inquiry, Psychology of the Ageing. The University has indicated that it believes that significant research is also being undertaken in Australian Studies, Comparative Medicine, Educational Policy, Evaluation Studies, Surface Physics and Women's Studies.

Issues of Concern

- 5.10 While the Committee's analysis has identified a number of areas of strength at Murdoch, it has also identified a number of issues which are of concern. Firstly, the proportion of first preference applications for undergraduate places at the University, and the number of school leavers entering the University, has fallen consistently since the University opened and the number of "new other than higher degree" students has fallen from a maximum of 687 EFTS in 1976 to 640 EFTS in 1977 and then to 524 EFTS in 1979. These trends, together with the fact that the University has not been able to achieve its minimum student load target figure in 1979, suggest that Murdoch is, perhaps, not as attractive to the majority of students as some of the other institutions in Western Australia which have been able to meet their target figures and enrol greater proportions of full time students.
- 5.11 The Committee also believes that the *pattern* of enrolments at Murdoch University gives grounds for concern. While it recognises the need to cater adequately for mature age and for part time and external students, the Committee believes that there is a need to maintain a reasonable balance between the numbers of these students, and of school leavers and full time students. In particular, it believes that an important responsibility of universities is the shaping of the intellectual and cognitive skills of young people within an environment of scholarship and research, a view which is shared by the University itself. At present, Murdoch University enrolls a higher than average proportion of mature age students and a lower than average proportion of school leavers. While the proportion of part time students at Murdoch is a little lower than the Australian average, the proportion of part time and external students (55 per cent in 1979) is substantially more than the Australian average, which was 37 per cent in 1978. Because of this unusual enrolment pattern, relatively few students attend the University during the day and the Committee doubts whether it has been possible to attain that "critical mass" of students which is necessary for effective peer group and staff interaction. In this regard, the Committee is concerned that the proportion of school leavers admitted to the University in 1979 was substantially lower than the proportion that obtained during the first few years of the University's existence.
- 5.12 While some of Murdoch's undergraduate programmes have been quite successful in attracting undergraduate students, others are still

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- 5.12 While some of Murdoch's undergraduate programmes have been quite successful in attracting undergraduate students, others are still

relatively underdeveloped. Part II programme enrolments in Communication Studies, Chinese Studies, Southeast Asian Studies, Economics, Chemistry/Mineral Science, Mathematics and Physics are relatively small and staffing in these areas is limited. The Committee is concerned that it has not been possible to develop programmes with reasonably large enrolments in these areas, some of which are basic and essential fields of university study. It is also concerned that even in some of the programmes somewhat better developed in terms of student and staff numbers, it appears that it has not always been possible for the University to offer courses in a number of basic fields of study. In this regard, the Committee is of the view that it is essential for universities to offer, and to attract students into, courses in the Humanities and the Social and Natural Sciences which provide the basis for the subsequent application of knowledge in the kinds of inter-disciplinary studies in which Murdoch University is particularly interested. In most areas the University appears to have focussed rather more on current issues and has emphasised problem solving and inter-disciplinary work as the *basis* for the educational programmes. In consequence, the available resources have been applied in such a way as to severely limit the numbers of staff able to provide teaching programmes in the disciplines on which the inter-disciplinary work necessarily depends. This situation is particularly serious *now*, as it seems clear that, like all universities, Murdoch University cannot anticipate any significant increase in funding in the foreseeable future (see paragraph 4.28).

- 5.13 The relatively small size of the undergraduate student body at Murdoch University inevitably results in very small numbers of able students in the later years of academic programmes. This is a serious disability to the academic life of the University as such students contribute greatly to the educational vitality of the University (especially to its honours programmes) and provide the basis on which postgraduate studies can be built.
- 5.14 It has been suggested to the Committee that Murdoch University's apparent limited attractiveness to undergraduate students, especially school leavers, has resulted, in part, from its public image. A number of submissions has put the view that the University has created the impression that it is quite different from other universities, particularly The University of Western Australia, and that many employers, parents

and upper school students believe that the University's courses are not a particularly good preparation for employment. It is inevitable that a new university will take time to establish itself in the community and prove to employers, parents and school students that its courses are relevant and of high standard and, as has been pointed out to the Committee, it is ultimately the quality of the graduates that will prove the worth of the institution.

- 5.15 At this stage, however, it does seem to the Committee that the University's public image is such that many students do not perceive it as an attractive alternative to other institutions of higher education. This is borne out to some extent by the declining proportion of first preference applications for places at Murdoch vis-a-vis the other institutions.

Prospects for Growth Within the Higher Education System in Western Australia

- 5.16 As mentioned previously, the projections of the increase in numbers in the 17 to 29 year age group in Western Australia suggest that there is a potential for some increase in both university and advanced education enrolments over the period 1979 to 2001 and, indeed, in the shorter term, provided that participation rates¹ remain at the levels projected for 1981. On the assumption that each additional enrolment will generate about three-quarters of a WSU,² student load in the university sector could increase by some 375 WSU's between 1979 and 1981, by an additional 400 WSU's between 1981 and 1984, and by a further 1 525 WSU's between 1984 and 2001. Under the same assumptions, student load in the advanced education sector could increase by 200 WSU's between 1979 and 1981, by an additional 625 WSU's between 1981 and 1984, and by a further 2 425 WSU's between 1984 and 2001. The relatively small increase in advanced education WSU's over the period 1979 to 1981 results

1. For definition see Notes on Statistics.

2. At present Murdoch University's student load is about three-quarters of its total enrolment while The University of Western Australia's student load is about 0.85 of its total enrolment. It is not possible to get a comparable figure for the advanced education sector as student load is not measured in terms of WSU's. It seems likely, however, that the figure would be in the region of three-quarters as the advanced education institutions in Western Australia enrol about the same proportion of full time students as Murdoch University.

from the assumption that the advanced education participation rate will fall from 6.7 per cent in 1979 to 6.6 per cent in 1981 in accordance with planned student load target figures.

5.17 To sum up, these projections suggest that the increase to the year 2001 in potential higher education student load in Western Australia could be 2 300 WSU's in the university sector and 3 250 WSU's in the advanced education sector. The implications of this potential growth for Murdoch University are discussed in the following paragraphs.

5.18 Student load at The University of Western Australia is, at present, a little under the *minimum* student load target figure which is 8 575 for 1979 and for the remainder of the 1979-81 triennium. The *maximum* student load target figure for The University of Western Australia for each year of the 1979-81 triennium is 8 725 WSU's and, accordingly, the University could increase its student load by some 200 WSU's and remain within its target figures. Accordingly, the potential increases of student load in the university sector may not result in corresponding increases in student load at Murdoch University. In addition, Murdoch University at present offers a much more limited range of courses, especially in the professional and vocational areas, than The University of Western Australia and it is somewhat more isolated in geographic terms. Consequently the Committee considers it unlikely that all of the students unable to obtain entry to specific courses at The University of Western Australia over the next few years will look to Murdoch University as an alternative.

5.19 Assuming that The University of Western Australia increases its student load up to the maximum of the agreed target range by 1981 and then remains at that level, and that only *two-thirds*³ of the remaining potential pool of additional university students would wish to enrol at Murdoch University, then student load at Murdoch University could

3. The assumptions that two-thirds of the remaining potential pool of additional university students and one-half of the remaining potential pool of additional advanced education students would wish to enrol at Murdoch University are not based on any detailed analysis of likely trends. They are simply the Committee's "best guess" of what might occur given that there are substantial perceived and actual differences both between Murdoch University and the other higher education institutions and between university education and advanced education.

increase by 125 WSU's between 1979 and 1981, by 375 WSU's between 1979 and 1984 and by 1 400 WSU's between 1979 and 2001.

- 5.20 It needs to be recognised, of course, that the potential growth in student load at Murdoch University could be increased significantly if some of the projected growth in student load in the advanced education sector were diverted to the university sector. On the basis of present planning, the enrolment targets set for the advanced education sector for 1981 allow for an increase of some 230 students over the 1979 levels. Further, colleges of advanced education in Western Australia may exceed their enrolment targets by up to one per cent of their total student load. In addition, it needs to be borne in mind that it is highly unlikely that all of the students who are unable to obtain entry to specific courses at The Western Australian Institute of Technology or the Colleges would look to Murdoch University, or any university in fact, as an alternative.
- 5.21 Assuming that The Western Australian Institute of Technology and the Colleges exceed their 1981 student load target figures by one per cent, and then remain at that level, and that only *one-half*⁴ of the remaining potential pool of additional advanced education students would wish to enrol at Murdoch University, then student load at Murdoch University could increase by an additional 250 WSU's between 1979 and 1984 and by an additional 1 450 WSU's between 1979 and 2001.
- 5.22 It should be noted, however, that if The Western Australian Institute of Technology and the Colleges exceed their student load targets by one per cent in 1981, then student load in the advanced education sector would exceed the projected potential pool of advanced education students by some 120 WSU's in 1981. In these circumstances, the colleges of advanced education may attract potential students from the university pool.

4. See footnote 3.

- 5.23 To sum up, it appears that, on the assumptions detailed in the preceding paragraphs, there is only a limited potential for increasing student load at Murdoch University over the period 1979 to 1981. However, if enrolment growth at other institutions is restricted, then the upper limits to growth in student load at Murdoch University would be 625 WSU's (375 from the university pool and 250 from the advanced education pool) over the period 1979 to 1984; and 2 850 WSU's (1 400 from the university pool and 1 450 from the advanced education pool) over the period 1979-2001. The calculations on which these figures are based are detailed in Table 5.1 below.

Conclusion

- 5.24 The Committee's terms of reference require it to make recommendations as to the future development of Murdoch University having regard to the Government of Western Australia's commitment to its retention as a separate institution. The Committee believes that the University is making a distinctive contribution to university work in Western Australia. While the University has developed significant strengths in the Biological Sciences generally, in postgraduate training and research, and in a number of other areas, it is also faced with a number of problems that are basically educational rather than economic.
- 5.25 In particular, the University has been unable to attract reasonable numbers of appropriately qualified students in some basic areas of activity (such as Mathematics and the Physical Sciences). In addition, because of limited enrolments and numbers of staff it has not developed an adequate range of basic courses in a number of fields in the Humanities and Social Sciences (such as Asian Studies and Philosophy) and has only developed a minimum range of courses in some other fields. The proportion of first preference applications for places at Murdoch University has fallen from 14 per cent in 1976 to 9 per cent in 1979, and there was a substantial reduction in the number of equivalent full time new students enrolling for undergraduate courses in 1979. The number of school leavers entering

TABLE 5.1

UPPER LIMITS TO GROWTH IN STUDENT LOAD,
MURDOCH UNIVERSITY, 1979-2001

	Projected Growth					
	University Sector		Advanced Education Sector		Higher Education	
	to 1984	to 2001	to 1984	to 2001	to 1984	to 2001
Potential Additional Enrolments(a)	1 020	3 077	1 100	4 331	2 120	7 408
Projected Additional Student Load (WSU's)(b)	775	2 300	825	3 250	1 600	5 550
Projected Additional Student Load (WSU's) Corrected for Potential Growth Within Approved Targets at Other Institutions(c)	575	2 100	500	2 925	1 075	5 025
Projected Student Load Growth at Murdoch University(d)	375	1 400	250	1 450	625	2 850

Notes: (a) Based on projected increases in the 17 to 29 year age group (an increase of about 23 000 between 1979 and 1984 and about 72 000 between 1979 and 2001), the participation rates planned for 1981 (4.2 for university education and 6.6 for advanced education), and existing enrolment levels (12 000 in university education and 19 361 in advanced education). See also Tables 4.5 and 4.6.

(b) Assumes that student load is about three-quarters the size of total enrolments.

(c) Assumes that student load at The University of Western Australia will increase from 8 529 WSU's in 1979 to 8 725 WSU's (the maximum of the agreed range) and that student load in the advanced education sector will increase from an estimated 14 250 WSU's in 1979 to 14 838 WSU's (the estimated maximum of the range that has been agreed on for 1981).

(d) Assumes that two-thirds of the remaining potential pool of additional university students and one-half of the remaining potential pool of additional advanced education students will wish to enrol for courses at Murdoch University.

undergraduate courses at Murdoch has remained at a relatively low level (about 19 per cent of all students commencing undergraduate courses at Murdoch in 1979) while the number of mature age and of part time and external students has remained at a relatively high level. This pattern of enrolments produces a very small full time student population on campus which, in the Committee's opinion, has made and will continue to make it difficult to attain a "critical mass" of students which is necessary for effective peer group and staff-student interaction. In addition, the relatively small size of the full time undergraduate student body will make it difficult to develop vigorous honours programmes able to round out the undergraduate courses and to support the post-graduate training activities of the University. It appears that lack of public awareness of what the University has to offer may have worked against it from the point of view of attracting students into undergraduate courses.

- 5.26 The Committee is of the view that some of Murdoch's present difficulties might be alleviated by a modest growth in student load, a view which is shared by the University itself. In its submission to the Committee the University stated -

While we are of a mind to agree that "small is beautiful", we are conscious that, in the difficult economic context of our time, we are a little too small at present. In strictly educational terms there are areas in which we feel the need to expand our capacity in order to achieve a better academic balance. In economic terms, we are not operating in some areas at the kind of level which has apparently become acceptable as "viable" in overall national University parlance. Our basic need, therefore, is to find ways of ensuring modest, balanced growth over the next decade, growth which would enable us to keep up our entry standards, assure balance between teaching and research and between disciplinary areas, and, above all, allow and encourage us to aim consistently for first class academic status.

- 5.27 In addition to helping to solve Murdoch's educational difficulties, growth of student numbers in disciplines of relatively low cost could also reduce average costs per student which are relatively high due to the presence of the Veterinary School and to relatively low total student numbers. Growth would also lead to an increased utilisation of Murdoch's physical plant which, at present, is operating significantly below capacity.

5.28 On the basis of the information available to it, the Committee's projections suggest that there may be significant increases in student load in the university and advanced education sectors in Western Australia in both the medium term and up to the year 2001. However, only time will tell whether the population projections and participation rates on which the Committee has based its analysis are appropriate.

5.29 In any event, it is difficult to assess the impact of growth in the pool of potential higher education students on student numbers at Murdoch. For one thing, it is difficult for the Committee to anticipate the levels of growth and the nature of developments that may take place at other higher education institutions over the next few years. Similarly, the extent to which Murdoch University will be able to overcome the disadvantages associated with factors such as its limited range of courses, the lack of awareness of its public image, and its location will only become known over time. If growth in enrolments at other institutions is restricted and if two-thirds of the students in the pool of additional university students and one-half of the students in the pool of additional advanced education students wish to enrol at Murdoch University, then student load at Murdoch University could increase by 625 WSU's (to a total of 2 375 WSU's) by 1984 and by 2 850 WSU's (to a total of 4 600 WSU's) by 2001.

5.30 In the Committee's view there can be no certainty that, without positive action to assist it, Murdoch University will benefit substantially from these potential increases in enrolments. In these circumstances, the Committee is drawn to the conclusion that the difficulties facing the University at present will not be resolved simply through the passage of time and that, accordingly, there is a need to take action to ensure that the University can continue to grow and develop. The Committee's recommendations for action are contained in the following chapter.

CHAPTER 6

THE TERMS OF REFERENCE AND THE COMMITTEE'S RECOMMENDATIONS

General Considerations

- 6.1 The Committee's terms of reference require it to make recommendations as to the future development of Murdoch University having regard to the Government of Western Australia's commitment to the retention of the University as a separate institution, and with particular reference to -
1. the suggestion contained in the Report of the Williams Committee that the range of subjects in small Universities be reduced and the role of such Universities be re-examined;
 2. teaching activities, such as teacher training, which are duplicated at The University of Western Australia, Murdoch University and The Western Australian Institute of Technology, and where Murdoch University could be strengthened by rationalisation and transfer of activities;
 3. possible areas of cooperative teaching between institutions to assist the development of the programmes of Murdoch University;
 4. the possibility of transfer of other selected activities from other institutions to Murdoch University.
- 6.2 The Committee has formulated its recommendations in the light of a number of general considerations. Firstly, it believes that the arrangements whereby target student load figures and recurrent grants have already been determined for universities and colleges of advanced education for the 1979-81 triennium virtually preclude, until 1982 at the earliest, any action which might involve transfers of student load and therefore of recurrent funds between institutions. Secondly, the Committee believes that in the present financial situation it is unlikely that Commonwealth funds will be available for expenditure on additional major capital works in the university sector in Western Australia over the next few years, say until 1984 at the earliest. Indeed, there is a possibility that the real resources available for the university sector will decline during the next decade and, consequently, the Committee believes that it is extremely unlikely that any major additional recurrent funds will be made available to help solve Murdoch University's present difficulties. Accordingly, the Committee considers that any proposals for expansion of existing activities or devel-

ment of new activities at Murdoch, at least until the mid 1980's, should be made within the limitations of the University's existing physical plant and at best, the resources currently available for higher education.

- 6.3 The Committee is of the view that the most effective future development of Murdoch University will occur if those activities which are already soundly established and growing steadily are further strengthened. It does not believe that it would be appropriate to make any direct attempt to expand areas in which Murdoch has been unable to establish activities effectively, as such areas are unlikely to be able to provide a base within Murdoch for effective expansion.
- 6.4 With these general considerations in mind, the Committee has given careful consideration to the four specific matters which are raised in its terms of reference. It has also considered a number of other matters which, in its opinion, will play a role in determining the future development of the University. The remainder of this chapter is devoted to a discussion of the following issues -
- (a) the transfer of activities from other institutions to Murdoch University;
 - (b) proposals for new developments at Murdoch University;
 - (c) low cost proposals which could contribute to the future development of Murdoch University;
 - (d) the role of small universities; and
 - (e) the implications of the Committee's recommendations.

The Transfer of Activities from Other Institutions to Murdoch University

- 6.5 It is clear that the size of Murdoch University's student population and the diversity of its courses could be increased significantly by the transfer to it of activities presently conducted within other institutions. Many of the submissions contain suggestions for the transfer of major activities, minor activities and, in some cases, individual members of staff, from other institutions to Murdoch; and the Committee's terms of reference refer it to the possibility of strengthening Murdoch by the rationalisation and transfer of activities, such as Teacher Education, which are presently duplicated elsewhere, and the possibility of transfer of other selected activities from other institutions to Murdoch.

6.6 The Committee has given careful consideration to both the general question of transferring activities from other institutions to Murdoch University, and to the various specific suggestions for transfer which it has received. In terms of the general question, the Committee is of the view that any proposals for the transfer of activities to Murdoch University, or in fact to any institution, should be assessed in the light of the impact on -

- (a) the space required in the recipient organisation;
- (b) the use of the space vacated in the donor organisation;
- (c) the need for special facilities, including -
 - (i) equipment,
 - (ii) library resources,
 - (iii) laboratory space,
 - (iv) teaching areas, and
 - (v) other;
- (d) the use of special facilities vacated in the donor organisation;
- (e) industrial issues including contractual obligations and "moral" obligations raised by differing staff conditions of employment;
- (f) the suitability of staff qualifications in the transferred group;
- (g) the academic programme (including staffing arrangements) of the donor organisation;
- (h) the academic programme (including staffing arrangements) of the recipient organisation;
- (i) the administrative impact of the transfer including -
 - (i) servicing of the transferred activity in the recipient organisation,
 - (ii) redundancy in administrative positions in the donor organisation, and
 - (iii) the need for expansion in the recipient organisation of support facilities such as secretarial assistance, clerical assistance, printery activities, audio-visual provisions etc.; and
- (j) the State's need for, and provision of, higher education, both generally and in particular fields of study.

6.7 In terms of these criteria, the Committee believes that any transfer to Murdoch should involve the transfer of coherent "blocks" of activity (such as a faculty, school or department), rather than the transfer of small and isolated groups of staff and students; the movement of

smaller groupings of staff should be considered only where their work is closely related to that of a transferred "block" of activity. The Committee is also conscious of the fact that any proposals for transfer will create a considerable amount of disruption and tension within the higher education system and, for this reason, believes it would not be sensible to propose a relatively large number of small scale transfers to Murdoch.

- 6.8 The Committee is of the view that the transfer of a particular activity from one institution to Murdoch should not prevent the donor organisation from preserving the vigour and vitality of its remaining educational programmes. To do this it might be necessary for the donor institution to continue to make available a number of the units presently offered by staff in the transferred group.
- 6.9 In addition, the Committee believes that any transfers of activity should be based on the existence of an appropriate strength within Murdoch University, which would provide the necessary supporting or complementary educational activity, and should be clearly capable of strengthening the University's present activities, either directly or indirectly.
- 6.10 A number of specific proposals for the transfer of activities from other institutions to Murdoch University are discussed below in the context of the Committee's general views regarding transfers.

Agriculture from The University of Western Australia

- 6.11 In suggesting that consideration be given to an integration of the activities of Murdoch University and The University of Western Australia, the Williams Committee commented that The University of Western Australia is short of land for its Faculty of Agriculture and referred to the possibility of Agriculture and Horticulture being developed on the Murdoch site.
- 6.12 There is no doubt that a number of advantages would accrue from the transfer of the Faculty of Agriculture from The University of Western Australia to Murdoch University. Included among these advantages are the following -
- (a) the prospects for collaboration and interaction between the two university-based activities in which basic biological sciences are applied to agricultural activities generally would be greatly enhanced;

- (b) Murdoch University's excellent Biology facilities (including the campus farm) would become available to the Faculty of Agriculture;
- (c) Murdoch University's student load could be increased by over 250 WSU's (including some 140 WSU's at the higher degree level), and it could receive some 150 undergraduate students (almost all of whom are full time) and about 20 academic staff. The interaction of these additional staff and students with the existing groups in Biology at Murdoch would enhance significantly the vigour of the educational life of the University;
- (d) the number of students enrolling for service courses in Biology and, more importantly, in Mathematics and the Physical Sciences at Murdoch would be increased. Additional enrolments in units in Mathematics and the Physical Sciences would permit the better use of existing staff and facilities, and enhance the educational viability of the School of Mathematical and Physical Sciences; and
- (e) the space vacated by the Faculty of Agriculture would provide a significant relief from the pressures on space which it is understood are being experienced by The University of Western Australia.

6.13 The Committee believes that accommodation could be found within the Science buildings at Murdoch for both the staff and students presently accommodated within the Faculty of Agriculture buildings at The University of Western Australia, and that some specialised facilities (e.g. glasshouses) not presently available on the Murdoch campus could probably be provided through a fairly limited minor works programme. It seems certain, nevertheless, that there would be significant costs involved in providing the specialised facilities required by Agriculture within the Murdoch Science buildings, and there could also be substantial costs involved in converting the present Agriculture buildings on The University of Western Australia campus for other uses.

6.14 While the transfer of the Faculty of Agriculture from The University of Western Australia is, in the Committee's view, feasible and would produce a number of benefits, particularly for Murdoch University, there are a number of major disadvantages associated with such a transfer. Courses in Agriculture have been offered at The University of Western Australia since 1913 and, as the University maintains, the Faculty of Agriculture is an integral part of the University so that any move to

separate it would meet with strong opposition from the University generally, and the Faculty in particular. There could be serious damage to staff morale, and considerable dissension about the contractual and moral obligations of the University to its staff. The University of Western Australia also comments that the transfer would have widespread deleterious consequences as teaching in the undergraduate Agriculture programme is undertaken in close liaison with the Departments of Botany, Economics, Geology, Mathematics, Microbiology and Zoology. These departments would all suffer from reduced student numbers and a lack of contact with Agriculture staff if the Faculty of Agriculture were transferred. The University also maintains that a break in this interaction of departments would also be damaging for undergraduate teaching.

- 6.15 In the Committee's view, the transfer, while it would be of considerable assistance to Murdoch University, could only be successful if it could be made acceptable to the staff groups involved, and to the donor and recipient institutions. If this could not be assured, the academic programmes and Murdoch University's development would suffer to the detriment of the university system in Western Australia. Accordingly, it does not believe that the expense and disruption of transferring the Faculty of Agriculture from The University of Western Australia can be justified, particularly in view of the very long and fruitful association that Agriculture has had with The University of Western Australia.

Teacher Education from Other Institutions

- 6.16 The Committee's terms of reference refer to the possibility of strengthening Murdoch University by the rationalisation and transfer of teaching activities, such as Teacher Education, which are duplicated at The University of Western Australia, Murdoch University, and The Western Australian Institute of Technology. The Committee has examined this issue from the point of view of the higher education system as a whole as all higher education institutions in Western Australia are presently engaged in the provision of Teacher Education courses.
- 6.17 The Committee considers that an increase in the number of students in Teacher Education courses at Murdoch would be advantageous from a number of points of view. As well as simply adding to the student load and the number of staff, an increase in Teacher Education numbers would improve

the quality of the educational life of the University by expanding the opportunities for staff and student interaction both within and outside the School of Education. In addition, the increase, particularly in Secondary Teacher Education programmes, would result in an increase in the number of students enrolling for service courses in other disciplinary areas, a development which would be particularly beneficial for Mathematics and the Physical Sciences and the Humanities and Social Sciences. Indeed, it seems to the Committee that if a Secondary Teacher Education programme were transferred from, say, The Western Australian Institute of Technology to Murdoch University, it would probably be necessary to transfer some supporting activities, particularly in the Humanities and Social Sciences, as well.

- 6.18 It has been pointed out to the Committee, however, that Murdoch University already has a relatively high proportion of its students enrolled for Teacher Education programmes and that the School of Education is uneasy about any great increase in enrolments. In addition, it has to be borne in mind that the Teacher Education programmes offered by other institutions have an integrity and cohesiveness of their own, and that it is important that a variety of different programmes are maintained in the State. The Committee is of the view that it would not be appropriate to transfer Teacher Education staff and students from a college of advanced education to Murdoch University as the programmes have quite different emphases and the staff have been recruited on the basis of different criteria. A decision to transfer Teacher Education from one of the Colleges or The Western Australian Institute of Technology to Murdoch would mean, in effect, a decision to run down a programme at the donor institution while at the same time, to increase numbers at Murdoch. The Committee doubts the feasibility of such an approach in view of the industrial difficulties that would be involved. For example, it is likely that problems of redundancy at the donor institution would arise as College and Institute Teacher Education staff would not necessarily obtain, in a competitive situation, any positions at Murdoch University which might be created as a result of increased student numbers. In any event, the Committee is not convinced that such a step would be desirable from the point of view of the system as a whole.

- 6.19 It would make more sense, in view of the similarities of staff in terms of their qualifications, research interests and general orientation, to transfer the Department of Education from The University of Western Australia to Murdoch University but, again, the Committee is not convinced of the desirability of such a move. Teaching in Education began at the University in 1916 and the Department of Education is closely associated with the Faculties of Arts, Economics and Commerce and Science in the provision of programmes for secondary teachers. In any event, the Committee believes that universities have an important role to play in the provision of courses in Teacher Education, and notes that of Australia's 19 Universities only the Australian National University does not have an involvement in Teacher Education.
- 6.20 It has been suggested to the Committee that Special Education be transferred from The University of Western Australia and Early Childhood Education, Science Education and Educational Administration be transferred from The Western Australian Institute of Technology to Murdoch University. As mentioned previously, the Committee considers that it would be inappropriate to consider transferring isolated small groups of staff and students from one institution to another and, accordingly, cannot support these proposals.

English, History and Psychology/Social Work from The Western Australian Institute of Technology

- 6.21 Suggestions regarding the transfer of all or part of The Western Australian Institute of Technology's activities in English, History, Psychology and Social Work to Murdoch University have been received by the Committee. In part, these proposals have been linked to the suggestion that the Institute's School of Teacher Education should be transferred to Murdoch University as the transfer of such a major Teacher Education activity would require the support of additional resources in the Humanities and Social Sciences at Murdoch.
- 6.22 Quite clearly, it would be difficult to transfer these activities completely to Murdoch University because of their important "service" contribution to other programmes (not only Teacher Education but also for example, Social Science). In any event, there are more than 850 equivalent full time students enrolled in these fields of study at the

Institute and these students would probably generate about 800 WSU's. It would be costly to provide the additional accommodation required to cater for this number of additional students in the Social Sciences at Murdoch University.

6.23 However, a number of advantages would accrue if some of these activities were transferred to Murdoch University. They are -

- (a) the elimination of overlap and duplication in academic programmes provided by Murdoch University and The Western Australian Institute of Technology, permitting the more effective use of resources;
- (b) the strengthening of Murdoch's activities in Psychology (already one of its more successful areas of study) and the expansion of its involvement with professional training;
- (c) the strengthening of Murdoch's activities in English and History which, as basic disciplines within the School of Social Inquiry, are anxious to diversify and expand their work; and
- (d) the addition of a relatively large number of full time students and some additional staff would increase opportunities for student and staff interaction and thus enhance the quality of the University's educational life.

6.24 The transfer of these activities from the Institute to Murdoch would, however, have some undesirable effects. In the first place, the Institute has had an involvement in these areas for many years and has developed courses which have a distinctive emphasis which would probably be lost in the event of transfer. In addition, the Institute will need to continue to provide some units in these areas to service other courses and its ability to do so will be limited by the lack of a reasonable number of staff committed to the provision of major courses as well as service units. Further, the staff who have been recruited by the Institute to provide these courses may well have expectations which are more likely to be met within the environment of a college of advanced education. In any event, there is no guarantee that students will necessarily be attracted to any courses that are transferred from the Institute to Murdoch. They may well prefer to enrol for similar courses at The University of Western Australia or one of the Colleges.

- 6.25 On balance, the Committee believes that it would not be appropriate to transfer the Western Australian Institute of Technology's Departments of English, Psychology and Social Work to Murdoch University and, in terms of its previously stated criteria, it also believes that it would not be appropriate to transfer relatively small portions of the Institute's activities in these areas.

Asian Studies from The Western Australian Institute of Technology
and The University of Western Australia

- 6.26 A number of submissions has raised the possibility of consolidating work in Asian Studies, which is presently being undertaken in a number of institutions, at Murdoch University. This matter is referred to in paragraphs 6.59 to 6.63 in the context of the Committee's discussion of the rationalisation of activities.

Architecture from The University of Western Australia

- 6.27 It has been suggested that the Faculty of Architecture might be transferred from The University of Western Australia to Murdoch University. The Committee understands that this matter was raised some years ago in view of the desirability of increasing the number of professional Schools at Murdoch and the fact that Architecture is, at present, housed in relatively unsatisfactory accommodation at The University of Western Australia.
- 6.28 No action was taken at that stage and the Committee is not inclined to re-open the issue. Architecture at The University of Western Australia is a relatively small and largely self-contained activity. It would not contribute greatly to Murdoch University in terms of student load or full time students, and it is doubtful that it would build on, or support to any great extent, any of Murdoch University's existing activities. The Committee has noted, however, that relatively small programmes in Architecture are offered by The University of Western Australia and The Western Australian Institute of Technology and suggests that it might be appropriate for some action to be taken to bring these two programmes together.

Other Proposals for Transfer

- 6.29 The Committee has received a number of other specific proposals for the transfer of activities to Murdoch University. Included among these is a proposal to transfer staff with expertise in Anthropological Linguistics from The University of Western Australia to Murdoch University in order to strengthen the Communication Studies programme, and a proposal to transfer the Chinese Studies programme and staff from Murdoch University to The University of Western Australia because of the limited opportunities for specialisation at Murdoch. As the Committee does not believe that it would be appropriate for it to consider recommending the transfer of relatively small groups of staff and students from one institution to another, it makes no recommendations regarding these proposals.
- 6.30 It has also been suggested that thought be given to transferring responsibility for a number of External Studies programmes from other institutions to Murdoch University. This matter is commented on in paragraphs 6.64 and 6.65 in the context of the Committee's discussions regarding the rationalisation of activities.

General Comments on Proposals for Transfer

- 6.31 The Committee's review of possibilities for the transfer of academic activities between institutions of higher education in Western Australia, whether involving small groups of staff or entire departments, faculties or schools, has led it to conclude that none could be carried out in a way that will benefit both Murdoch University and higher education generally in the State. The reasons behind this conclusion relate to *economic, industrial, educational and philosophical issues*.
- 6.32 As the Committee has pointed out, it attempted to identify transfers of academic *programmes* which might increase enrolments (especially of full time students) at Murdoch in as many areas of teaching as possible. It considers that the transfer of small numbers of selected staff from other institutions (for example, those in Psychology, Asian Studies, History, or Education) is not likely to bring about the desired increase in enrolments, even though it may strengthen somewhat existing programmes at Murdoch. It is for this reason that the Committee has not explored in detail the implications of making such small-scale transfers, except

where they are a necessary adjunct to the transfer of a major teaching activity. The comments which follow, therefore, are concerned with the examination of the transfer of major teaching activities only.

- 6.33 The *economic reasons* for not recommending such transfers are the increased costs that will be incurred when facilities (at least some of which are highly specialised) are vacated at one institution and re-established at Murdoch and, in addition, the costs associated with the diminished or changed responsibilities of both academic and support staff for teaching activities in servicing departments in the donor institutions. These problems would probably be most severe for the transfer of Agriculture from The University of Western Australia, and the Committee accepts that the rehousing of Agriculture at Murdoch would generate such an initial direct cost as to make it incompatible with the necessity to bring about almost "costless" changes in Murdoch's growth. In the case of the School of Teacher Education at The Western Australian Institute of Technology, perhaps the greatest problems would attach to the rearrangement of staff responsibilities in servicing activities in the Humanities and Social Sciences. Overall, the Committee concluded that the inevitable cost increases, even if they could be funded (which is unlikely), could not justify the recommendation for transfer in the immediate future.
- 6.34 Secondly, *industrial issues* will arise whether the transfer is within the university sector or between the university and advanced education sectors. In the former case, industrial issues include the moral and contractual obligations of the Senate of The University of Western Australia to staff who, by choice, joined a well-established and prestigious University. In the latter case there are the more difficult problems of intersectoral transfer, and also the question of moral and contractual obligations to staff. These are primarily related to the choice exercised and, for example, the expectations held by Institute staff who sought to work for a large multi-purpose college of advanced education. In addition, there are issues related to the selection for transfer of staff with appropriate qualifications, interest and aptitudes for university work. While educational circumstances and attitudes have certainly changed in the last few years, there are no encouraging precedents for action of this kind in Australia.

- 6.35 Thirdly, there are *educational issues*, which arise directly out of those described as industrial. It is, of course, quite conceivable that firm and decisive action by governments and coordinating authorities could bring about the transfers considered; but whether this action would be lastingly helpful to Murdoch University or, indeed, to higher education in the State, is another matter. An institution of higher education is essentially fragile; it will survive and flourish only if staff are willing and able to accept that particular courses of action are necessary and desirable. It requires a full personal commitment of staff to the value of their work in teaching and research and to the institution they serve. The distortions and tensions which would be produced by the large-scale transfers being considered would, in the Committee's view, inevitably damage the corporate spirit of the new university during those years when that spirit is perhaps most important - for even after any transfer Murdoch would face a considerable number of difficult and challenging years. Again, the Committee considers that the possible gains from such action are outweighed very considerably by the almost certain losses.
- 6.36 Finally, there is what might be termed a *philosophical issue*. This can be baldly stated thus: why *should* the work of two effective, well-established and highly-regarded institutions of higher education, The University of Western Australia and The Western Australian Institute of Technology, be hindered in order to assist another newer institution to grow? If it is suggested that the fundamental reason is because of the value of Murdoch's "alternative path" through university education in Western Australia, then a telling response would be that if the students and the public at large do, in fact, prize that alternative path, Murdoch will make its own way in the future. If its work is *not* so valued, then it cannot flourish as an independent institution with its present educational ethos, whatever is done to assist it; but transfers, while they may well increase the numbers of staff and, potentially, of enrolments, cannot ensure that public acceptance on which its future health depends. On balance, it seems likely to the Committee that transfers may damage the quality and vigour of higher education in the State, rather than strengthen it.

- 6.37 Thus, the Committee fears that action of the kind being considered may well prove damaging to the ethos of Murdoch in such a way as to remove the very reason for its separate existence as an independent university; and at the same time distort and damage the teaching and research activities of The University of Western Australia and The Western Australian Institute of Technology. Murdoch itself recognises these difficulties. In its official submission to the Committee of Inquiry, it points out that
- the possibility of transferring academic work from other tertiary institutions to Murdoch...is by its nature an embarrassing one for us... (as we)...have some lively apprehensions about the difficulties involved in both making and recovering from surgical transplantations. The Murdoch submission concludes, nevertheless, that some modest expansion might provide a firmer base for development and would involve transfers of work. The Committee has picked up some of these suggestions in its recommendations about concentration of activities and (indirectly) in those about the establishment of global quotas. It believes that the general comments in this section make it clear why it has not put forward further and more sweeping recommendations about transfer; in so doing, it subscribes to a remark made in the submission from The Western Australian Institute of Technology, namely, that the prime concern in the consideration of the Committee in making its inquiry should be the interests of students and the community rather than the problems of institutions. The Committee would also wish to point out that its approach, which attempts to take adequate account of the integrity, characteristic educational style and historical development of educational institutions, is consistent with the "evolutionary" procedures endorsed by the Williams Committee. It has also noted the remarks made by the Tertiary Education Commission in a statement to the Joint Parliamentary Committee of Public Accounts inquiry into funding of tertiary education that the Commission sees the process of rationalisation of tertiary courses and institutions as being a continuous one generally involving relatively small adjustments rather than a major restructuring...adjustments towards a more rational distribution of resources (in tertiary education) are continually taking place, but they do so within limits imposed by realpolitik.¹* In the Committee's

1. Statement to Joint Parliamentary Committee of Public Accounts: Inquiry into Funding of Tertiary Education, pp. 47, 48.

view, both educational and political realities prevent it from recommending major transfers of activities to Murdoch.

Proposals for New Developments at Murdoch University

- 6.38 The Committee has given some thought to the prospects for developing new activities at Murdoch University, and a number of possible developments are discussed below.

Medicine and Law

- 6.39 The Partridge Committee argued the need for Murdoch to broaden its professional base as part of its growth programme and suggested that a School of Law be established in the fairly near future, and that a School of Medicine be established in the longer term.² The Committee has not conducted a detailed analysis of the need for additional medical practitioners or Law graduates in Western Australia, but all the evidence available to it suggests that there will not be a need for a second Law School or a second Medical School in Western Australia for many years to come. When the need does arise, however, the Committee is of the view that these professional schools should be developed at Murdoch University.

Commerce

- 6.40 In suggesting the establishment of a School of Law at Murdoch University, the Partridge Committee observed that there was a steadily increasing demand for Legal Studies, not only for the formal practice of Law itself, but also as a background for Business, Public Administration and Politics. The Committee has noted the significant growth in the Commerce or Business Studies field in Western Australia since 1970. Enrolments in these programmes now total 634 EFTS at The University of Western Australia, 2 111 EFTS at The Western Australian Institute of Technology and 632 EFTS at Churchlands College. It appears to the Committee that there might be some prospects for additional growth in this area and, in view of this, it may be appropriate for Murdoch University to develop a Commerce School or programme at some stage in the future. Such a programme, which might incorporate elements of Accounting, Financial Management, Management Theory, Business Law and Information Processing, would complement the

2. *Post Secondary Education in Western Australia*, p. 144.

present Economics programme and would also provide a very useful range of optional units for students enrolled in other programmes such as Environmental Science and Social and Political Theory. It would also serve to broaden the University's professional base, a development which the Partridge Committee saw as particularly desirable.

- 6.41 The development of a Commerce programme at Murdoch University would be a relatively expensive undertaking which would need to be considered in the light of the potential demand for places and existing developments in the State. If such a development were seriously contemplated for Murdoch University it may also be desirable to explore the possibility of reducing to some extent the numbers of students enrolled in such programmes at other institutions.

- R.1 *The Committee recommends that the Western Australian Post Secondary Education Commission discuss with Murdoch University the possibility of it developing, on the base of its existing activities, a professional Commerce programme.*

Optometry

- 6.42 It has been suggested to the Committee that an Optometry programme should be developed at Murdoch University. The Committee understands that a proposal to develop such a programme has already been considered by the Tertiary Education Commission and not supported. It also understands that enrolments in such a programme are likely to be very small and that it is, therefore, unlikely to make a significant contribution to the University's future development. Accordingly, the Committee does not support the development of an Optometry programme at Murdoch University.

Peace and Conflict Studies and Philosophy

- 6.43 One proposal which has received considerable support in the submissions is that Murdoch University should reinstate its programme in Peace and Conflict Studies. This programme was apparently one of the foundation programmes at Murdoch, but it was replaced some years ago by the Social and Political Theory programme. The Committee has, of necessity, concentrated on broad general issues which are relevant to the future development of Murdoch University, and has not devoted its attention to somewhat narrower issues such as the offering of a specific series of

units in a programme. In any event, it believes that such matters are properly the concern of the University itself, rather than of an external committee of inquiry. For this reason, the Committee has refrained from commenting on the proposal to reintroduce Peace and Conflict Studies. For similar reasons, it has not considered a suggestion that a Philosophy programme should be developed at Murdoch.

Student Accommodation

- 6.44 It has been suggested to the Committee that, in view of Murdoch University's relative isolation from dormitory suburbs, the absence of residential accommodation on campus has contributed towards its relative lack of success in attracting students. The Committee is of the view that the provision of residential accommodation on campus may result in the University becoming more attractive to full time students whose homes are at a distance from the University; and that it would also permit the University to hold on campus residential conferences and short courses for external students. Such developments could very well enhance the community's image of the University and, while it would certainly be difficult to obtain funds for the construction of further residential accommodation at higher education institutions in Australia, the Committee is of the view that Murdoch University should further explore ways of funding student residential accommodation.

- R.2 The Committee recommends that Murdoch University explore with both government and private agencies ways of funding student residential accommodation.

Low Cost Proposals

- 6.45 The Committee recognises that its recommendations regarding new developments at Murdoch University will, at best, have only a limited impact on the University's growth and development over the next twenty years. Accordingly, it has directed its attention to a number of proposals that might enable the University to reach by 1984, at either little or no increase in costs, its estimated student load capacity of between 2 200 to 2 300 WSU's. These proposals are discussed below under the following headings -

*Limitations on Enrolments at Other Institutions**Postgraduate Student Load**The Rationalisation of Activities**Cooperative Teaching Arrangements**The Establishment of Institutes for Teaching and Research**The Joint Use of Facilities**Publicity for Murdoch University's Activities**Limitations on Enrolments at Other Institutions*

- 6.46 A number of submissions has put the view that the most appropriate way of assisting Murdoch University to develop would be to impose limitations on enrolments in general, and in specific areas, at other institutions. In some cases, this view is coupled with the suggestion that such action would also be warranted from the point of view of increasing the university participation rate vis-a-vis the advanced education participation rate in Western Australia. The Committee is not sure that it is possible to *produce* an increase in the university participation rate, especially given the apparent preference of the Western Australian community for places in higher education institutions. It recognises, however, that while it is unlikely that all applicants unable to obtain places at other institutions in the future would be prepared to accept places at Murdoch, the limiting of total enrolments in the institutions of higher education could provide a way of encouraging growth at Murdoch.
- 6.47 The Committee has explored this issue and believes that some limitations should be imposed on the growth in enrolments at other institutions. In this context, the Committee has noted that The University of Western Australia has expressed a desire to limit its growth to about 8 000 to 10 000 students and, in any event, the Universities Council has pegged its student load target figures (8 575 to 8 725 WSU's) at the same level for each year of the 1979-81 triennium. The Western Australian Institute of Technology is now one of the two largest colleges of advanced education in Australia. It has indicated that it has no present intention to continue its growth in a major way, apart from some limited growth planned for the 1979-81 triennium, largely to cope with a possible increase in the quota on entry into its pre-service Nursing programme. The Colleges are now all of a size where they have the resources to provide good quality programmes and there

appear to be only very limited prospects for either diversification or for an increase in their Teacher Education quotas.

- 6.48 Finally, the Committee notes that if the various assumptions on which it has based its analysis of the growth in total student load in Western Australia are borne out, and if enrolments at other institutions are limited to the levels planned for 1981, then Murdoch University's student load could increase by about 625 WSU's to a total of about 2 375 WSU's by 1984, and by about 2 850 WSU's to a total of about 4 600 WSU's by 2001 (see Table 5.1).

R.3 *The majority of the Committee recommends that, for the 1982-84 triennium, student load at The University of Western Australia and in the advanced education sector be limited to levels not greater than those proposed for 1981, and that the position be reviewed in planning for the 1985-87 triennium in the light of Murdoch University's growth and development in the intervening period.*

- 6.49 The minority view is that limiting The University of Western Australia and the advanced education institutions strictly to the planned 1981 enrolment levels will deny educational opportunities for a number of students for whom Murdoch University will not be a possible alternative. This will be a particular problem in those areas of study not offered by that University. In addition, holding to the 1981 student load level will create some difficulties for some of the institutions. For example, the flow through into later years of the planned levels of intakes into the Churchlands College Business Studies programme will result in some increase in Business Studies student load over the 1982-84 triennium. Similarly, the planned development of advanced education courses in the Performing Arts at Mount Lawley College will have implications for the College's student load. While the general thrust should be to restrict enrolments in the other institutions, it would be preferable to allow some flexibility in planning so that under special approved circumstances an institution might at some stage in the future exceed its planned 1981 enrolment level in order to cater for students who wish to study in fields not available at Murdoch University.

6.50 The limiting of total enrolments at other institutions is likely to increase the pool of students available for Murdoch University but it will not necessarily lead to increases in enrolments in areas where numbers are presently very low. The Committee believes, however, that it is educationally undesirable to attempt to divert enrolments on a large scale from one institution to another by the application of selective or specific quotas in particular fields of study or disciplines. Such action would diminish the capacity of institutions to manage their educational programmes in accordance with their own judgments about priorities, and would almost certainly lead to under-utilisation of staff and facilities.

6.51 The only exception the Committee would be prepared to consider is in the field of Teacher Education where the public at large and all of the higher education institutions recognise the need to limit intakes in view of the employment situation. The Committee believes that Murdoch University would benefit from an increase in its number of Teacher Education students, although it notes that the School of Education is uneasy about any great increase. It does not, however, believe that numbers at Murdoch should be increased at the expense of other institutions. The Committee understands that the Tertiary Education Commission is of the view that, for Australia as a whole, intakes into pre-service Teacher Education courses should be reduced substantially by 1984 and that the resources devoted to Teacher Education should be at least 25 per cent less in 1984 than in 1978. The Committee understands that while there is a surplus of teachers in Western Australia, the Western Australian Post Secondary Education Commission is of the view that the situation is not as serious as it is in some other States. Early action was taken in Western Australia to reduce intakes into pre-service courses and, in addition, demand for teachers has held up a little better than in some other States because the population of Western Australia is growing at a somewhat faster rate. Indeed, the Committee has been informed by the Western Australian Post Secondary Education Commission that it may be necessary at some stage over the next few years for intakes into pre-service courses, particularly at the secondary level, to be increased to meet demand. Should this be the case, the Committee believes that intakes into pre-service courses should be increased at Murdoch University rather than at other institutions.

- R.4 *The Committee recommends that, should it become necessary in the future to increase intakes into pre-service Teacher Education courses in Western Australia, the Western Australian Post Secondary Education Commission ask Murdoch University to increase its intakes and other institutions to refrain from increasing their intakes.*
- 6.52 While the Committee is not prepared to recommend the introduction of additional specific quotas, it is of the view that reduced enrolments in the Humanities and Social and Natural Sciences at The University of Western Australia and The Western Australian Institute of Technology could lead to an increase in the number of students in these areas at Murdoch. The Committee hopes that it will be possible for The University of Western Australia and the Institute to take some account of this view in planning their admissions policies over the next few years; in general, indeed, the Committee hopes that any reductions in student load that institutions may have to make elsewhere to cope with increases in student load resulting from new or expanded activities will be in areas where Murdoch University also offers programmes as this may lead to an increase in the level of demand for places at Murdoch.
- 6.53 In this context, the Committee is aware that The Western Australian Institute of Technology subscribes to the all embracing definition of technology (the application of knowledge to satisfy human needs) which was enunciated by the Commonwealth Advisory Committee on Advanced Education in its Second Report.
- 6.54 The Committee does not necessarily subscribe to this definition. It accepts, however, that institutions such as The Western Australian Institute of Technology have a role to play in the provision of courses in fields of study such as Teacher Education and the Humanities and Social Sciences. Enrolments in these fields of study at the Institute are large, however, and provide competition in a general sense to Murdoch University. It seems to the Committee that the limitation of total enrolments at the Institute will not necessarily lead to increased enrolments at Murdoch unless enrolments in the non-technological areas at the Institute are reduced somewhat below the present levels. In this context it would seem to be appropriate

for the Western Australian Post Secondary Education Commission to continue to review on a regular basis enrolment trends in the non-technological areas at the Institute.

Postgraduate Student Load

- 6.55 The Committee has commented previously on Murdoch's strength in the postgraduate study and research areas. These provide valuable support for Murdoch's undergraduate teaching activities and the Committee considers that it would be appropriate to plan for some increase in the number of postgraduate students.
- 6.56 The higher degree student load target of 315 WSU's planned for 1981 would bring Murdoch's proportion of higher degree student load vis-a-vis total student load up to about 15 or 16 per cent, still somewhat below the national average of 18.3 per cent. The Committee is of the view that Murdoch University's higher degree student load should be increased to about 380 WSU's in 1982 in order to bring it in line with the national average, and that the University should be permitted to exceed its planned higher degree student load target figures of 275 WSU's and 315 WSU's in 1980 and 1981 respectively if it wishes, within, of course, the total student load targets set for those years. The Committee also believes that from 1982 onward, Murdoch's higher degree student load should be increased in line with increases in total student load so that it remains at about the national average.
- R.5 *The Committee recommends that, within the limits of its total student load, Murdoch University should, if it wishes, be permitted to exceed its present higher degree student load target figures in 1980 and 1981; and that higher degree student load be increased to about 380 WSU's in 1982 and then maintained at a level equivalent to 18 to 19 percent of total student load.*
- 6.57 Acceptance of this recommendation should make it easier for the University to achieve its target student load figures over the next few years as the Committee understands that the University has been in the position of turning away potential higher degree students.

The Rationalisation of Activities

- 6.58 There are a number of areas within the higher education system in Western Australia where, in the Committee's opinion, better use of available staff and resources would occur if activities presently spread over a number of institutions were coordinated and concentrated at one location. These areas are discussed below.

Asian Studies

- 6.59 The Committee has commented previously on the relatively small student numbers in Murdoch University's Chinese Studies and Southeast Asia Studies programmes, in The Western Australian Institute of Technology's Asian Studies programme and in The University of Western Australia's Japanese Studies programme, and has suggested that this is an area that would benefit from a drawing together and pooling of available resources in the three institutions, particularly as there appears to be a substantial degree of overlap in courses in both the Language and Cultural Studies areas. Mention has also been made of the fact that discussions regarding the future provision of courses in Asian Studies were initiated between the three institutions some time ago.
- 6.60 The Committee is of the view that the teaching of Asian Languages (Chinese, Japanese, Indonesian and Malay) should be developed at one institution with a language laboratory which could be developed as a "specialist resource" to serve the State as a whole.
- 6.61 The Committee is also of the view that it would be advantageous to concentrate all, or most of the teaching of Asian Cultural Studies (covering China, Japan, Southeast Asia, India and Asia generally) with the teaching of Asian Languages. It recognises, however, that Asian Studies units provide useful electives for students majoring in other programmes (e.g. Business Studies and Teacher Education at The Western Australian Institute of Technology, Arts and Economics and Commerce at The University of Western Australia, and Comparative Literature and Social and Political Theory at Murdoch), and that it may be desirable for some Asian Cultural Studies units to be made available to students in all institutions, perhaps through "contracting" or other forms of cooperative teaching.

- 6.62 The Committee recognises that some benefits would be obtained by consolidating Asian Language and Cultural Studies programmes at Murdoch University, The University of Western Australia, or The Western Australian Institute of Technology. Each of the institutions has different strengths which would promote the further development of Asian Studies, It believes, however, that consideration should be given to transferring the programmes from The University of Western Australia and The Western Australian Institute of Technology to Murdoch University. The programmes would fit comfortably within the Murdoch structure and would help to increase student numbers. The way in which this might be done, however, requires much more detailed consideration.

R.6 *The Committee recommends that the Western Australian Post Secondary Education Commission review, with the institutions concerned, the need for and provision of courses in Asian Languages and Asian Cultural Studies at the university and advanced education levels in Western Australia with a view to recommending the concentration of all or most of these activities at one institution.*

- 6.63 The Committee would expect that, in conducting this review, the Western Australian Post Secondary Education Commission would pay due regard to the desirability of increasing student numbers at Murdoch University, and the extent to which the needs of students at all institutions for service units in Asian Cultural Studies could be met by the development of "contracting" arrangements or through other forms of cooperative teaching. The concentration of Asian Studies at Murdoch University might lead to an increase in student load of the order of about 100 WSU's.

External Studies

- 6.64 The Committee has commented previously on the strength of Murdoch University's external studies programme and the extent to which the University cooperates with other institutions, particularly The Western Australian Institute of Technology, in the sharing of resources for external studies. It has also noted that the Western Australian Post Secondary Education Commission is in the process of reviewing the whole question of the provision of external studies in Western Australia, and has posed a number of questions (see paragraph 3.88) which might be considered in that review.

- 6.65 From the point of view of educational balance, the Committee suggests that the proportion of external students at Murdoch University should not be increased significantly. The University does, however, have a special interest in, and commitment to, external studies, and it may be that its contribution would be enhanced if a number of programmes (such as Computing Science, Mathematics and Physics) were reserved exclusively for it. This would also result in a small increase in student load, perhaps of the order of 20 WSU's.

R.7 *The Committee recommends that, in reviewing the whole question of the provision of external studies in Western Australia, the Western Australian Post Secondary Education Commission give some consideration to identifying fields of study which might be developed exclusively in this mode by Murdoch University.*

Master's Degrees

- 6.66 Several submissions have suggested that colleges of advanced education should not offer master's degrees and, in particular, that the development of some such courses at The Western Australian Institute of Technology offers unnecessary competition to those at Murdoch University. At present, only a limited number of master's degree programmes is offered by the Institute and, in general, enrolments are small as shown by Tables 2.18 to 2.24. In fact, at present it is only in the Science field where there is any significant overlap between the Institute courses and master's degree courses offered by Murdoch University.
- 6.67 Much of the concern expressed to the Committee relates to the alleged rapid and competitive development of master's degree courses at the Institute. In this regard the Committee understands that the Institute submitted proposals to the Western Australian Tertiary Education Commission for the development of master's degrees in seven disciplinary areas over the period 1973 to 1976 (i.e. during the planning for, and establishment of, Murdoch University) and that five of these proposals were supported and two of them were deferred. In more recent times the Institute has submitted proposals to the Western Australian Post Secondary Education Commission for the development of master's

degrees in ten disciplinary areas. Four of these proposals have been supported in full, two have been supported but in a limited number of streams only, two have not been supported and consideration of two has been deferred.

6.68 Master's degrees are offered in a variety of ways. Some consist entirely of coursework; others involve a research thesis; and yet others are based on a mixture of coursework and a thesis or a project. Universities offer master's degrees in all three modes. Colleges of advanced education in Australia do so too, although relatively few offer master's degrees by research thesis only.

6.69 The Committee finds it impossible to specify criteria that would clearly distinguish between master's degrees which should be offered only in universities and only in colleges. There is more in common in the programmes than is divergent. It believes, however, that any institution offering a master's degree ought to be able to demonstrate that -

- (a) it has suitably qualified staff;
- (b) suitable facilities are available;
- (c) supporting programmes, especially at the undergraduate level, are in operation; and
- (d) there is clear evidence of sustained student demand and of the employability of graduates.

6.70 These criteria should apply to universities and colleges and should be considered not only with respect to major teaching fields, but also to specialities within a field.

6.71 For degrees by research only, the Committee believes that there should be a supporting research environment, and hence that universities are more likely to be able to offer master's degrees in this mode than colleges. On the other hand, it is entirely appropriate for colleges to provide courses involving theses or projects which centre on the investigation of problems of current importance in those educational fields in which their staff are actively engaged.

6.72 The Committee believes that this view is fully consistent with the general policies underlying the development and support of higher education in Australia as -

- (a) Commonwealth reports and Commonwealth funding policies have established the expectation that master's degree courses can be approved in both the college and university sectors, and many colleges of advanced education in Australia now offer such courses;
- (b) the Australian Council on Awards in Advanced Education has established criteria for the accreditation of master's programmes and has registered master's degrees;
- (c) many staff in colleges of advanced education have the necessary competencies and can offer to students and the community programmes that are different and that will utilise valuable facilities to the benefit of industry and the community; and
- (d) some fields of study are unique to colleges and benefit from higher degree work. In Western Australia these would include, for example, Library Studies and Paramedical Studies.

6.73 The Committee is of the opinion, however, that it is desirable to guard against unnecessary competition at the master's degree level between universities and colleges of advanced education. It believes that it will be important to continue to exercise some control over the development of additional master's courses, or streams in master's courses in Western Australia in the immediate future in order to assist Murdoch University's development.

R.8 *The Committee recommends that, in view of the desirability of avoiding unnecessary duplication, and therefore competition for master's degree students, the following guidelines be adopted by the Western Australian Post Secondary Education Commission for the consideration of proposals for new master's degree courses in the advanced education sector -*

- (a) *The programme should have some degree of distinctiveness about it, whether this be because the field of study is unique to the college of advanced education or because the programme adopts an approach which is not followed by other local institutions. Distinctiveness may be related also to staff, curriculum design or facilities.*

- (b) *Potential student numbers in a field of study are relevant - but in different ways that are sometimes hard to assess. The provision of alternative programmes for students, rather than just increasing enrolments in an existing programme, may be important where enrolments justify it.*
- (c) *College of advanced education courses should contribute to the major mandate of colleges; that is they should be applied or vocationally oriented. Hence some orientation towards employment opportunities, continuing professional education, etc., should be expected.*
- (d) *Unnecessary duplication should be avoided, especially where it involves heavy costs.*

6.74 Given the need to utilise staff and resources as wisely as possible, the Committee considers that cooperative planning and teaching in some fields would also be appropriate, particularly as the total demand in the State for places in some programmes will be limited. A cooperative administrative arrangement between institutions should enable the specialised abilities of staff to be used in teaching and the supervision of projects; should permit the placement of students in the institution most appropriate for their chosen programme; and should reduce unnecessary competition.

R.9 *The Committee recommends* *that the higher education institutions in Western Australia keep under review opportunities for the cooperative presentation of higher degree programmes including arrangements for joint supervision of research students and joint coursework programmes.*

6.75 The Committee believes that this is a matter which might warrant discussion from time to time by the Chief Executive Officers of the various higher education institutions.

6.76 Some additional comments regarding the cooperative presentation of higher degree programmes are included in the Committee's discussion of cooperative teaching arrangements and the establishment of institutes.

Pre-Service Postgraduate Diploma Courses in Primary Teacher Education

- 6.77 At present, pre-service postgraduate diploma courses in Primary Teacher Education are offered by Murdoch University, The University of Western Australia, The Western Australian Institute of Technology and Claremont Teachers College. The Committee understands that some of the students who enrol for The University of Western Australia programme complete part of their course at another institution. Enrolments in all of these courses are very small, as shown by Table 6.1, and the Committee considers that it would be beneficial to rationalise the programmes. Indeed, the Committee was inclined to recommend that the programmes be restricted to two institutions, Murdoch University and Claremont Teachers College. This arrangement would have provided a reasonable geographic distribution of programmes and would have enabled potential students to choose between a university programme and an advanced education programme. It would also have provided Murdoch University with an opportunity to increase its student load and may have made it feasible for the University to develop a complementary post-graduate diploma programme in Early Childhood Teacher Education in due course.

TABLE 6.1

STUDENTS COMMENCING PRE-SERVICE POSTGRADUATE DIPLOMA COURSES
IN PRIMARY TEACHER EDUCATION BY INSTITUTION, 1975-79

Institution	1975	1976	1977	1978	1979
Murdoch	-	2	7	-	-
UWA	-	12	20	20	15
WAIT	2	-	7	9	9
Claremont	25	38	47	26	44
Total	27	52	81	55	68

- 6.78 The Committee has noted, however, the view of the University that graduates who wish to become primary teachers cannot be sufficiently prepared within the constraints of a one year diploma programme, and that it requires such students to complete a one and a half year programme leading to the award of a Bachelor of Arts degree in Initial Teacher Education. The Committee can see no good reason why a one and

a half year pre-service programme should not be made available for graduates who wish to become primary school teachers, although in the light of existing procedures it might be more appropriate if the last half year of such a programme took the form of an internship in a school. The Committee believes that if Murdoch University is able to develop such a programme which is acceptable to the State Education Department, then consideration should be given to concentrating pre-service Primary Teacher Education courses for graduates at Murdoch University and Claremont Teachers College.

- 2.10 *The Committee recommends that if Murdoch University is able to develop a one and a half year pre-service primary Teacher Education programme for graduates which is acceptable to the State Education Department, then the Western Australian Post Secondary Education Commission discuss with the institutions concerned the possibility of concentrating pre-service primary Teacher Education courses for graduates at Murdoch University and Claremont Teachers College.*

Cooperative Teaching Arrangements

- 6.79 The Committee's terms of reference require it, inter alia, to make recommendations as to the future development of Murdoch University with particular reference to possible areas of cooperative teaching between institutions to assist the development of the programmes at Murdoch University.
- 6.60 In the Committee's view, possible forms of cooperative teaching are as follows -
- (a) individual Murdoch students might attend or enrol externally at other institutions to take one or more elective units (that is units which are not prescribed as part of the requirements of a particular programme);
 - (b) groups of Murdoch students might attend or enrol externally at other institutions to take one or more units which are required in order to fulfil the requirements of a particular programme;
 - (c) staff from other institutions might participate in the teaching of Murdoch University units; and
 - (d) staff from other institutions might participate in the supervision of Murdoch higher degree students.

6.81 As the Committee understands it, Murdoch's policies regarding the granting of credit for units taken at other institutions are quite liberal, but only very limited use is being made of these various forms of cooperative teaching arrangements at present. The Committee is aware that differences in course structures and academic calendars, and commuting difficulties will inevitably inhibit the development of cooperative teaching arrangements and that such arrangements might also lead to some reduction in student load and a lowering of staff morale at Murdoch.

6.82 Small universities such as Murdoch are inevitably limited in terms of the range of units and programmes they can provide. The Committee considers that the breadth and depth of some of Murdoch's programmes would be enhanced if some units offered by other institutions were made available on a formal basis, perhaps through contracting, to Murdoch students, and that this might increase the attractiveness of the University to students. Such an approach would also lead to a more efficient use of resources in the higher education system as a whole, and would reduce the pressure on Murdoch University to spread its resources too thinly by offering and staffing a larger number of relatively small-enrolment low-demand units.

R.11 *The Committee recommends that Murdoch University explore with other institutions the prospects for the further development of cooperative teaching between institutions, with the primary aim of enhancing the breadth and depth of Murdoch University's programmes, mainly through the provision of courses by "contracting".*

6.83 In the Committee's opinion, careful consideration would need to be given to the impact of "contracting" on staff morale and student load at Murdoch, and a definition of "contracting", which would include details of how contract offerings might be paid for by recipient organisations, would have to be developed.

6.84 The Committee believes that opportunities for staff from other institutions to participate in the supervision of Murdoch higher degree students will arise out of needs in specific cases, and are best left to develop through informal contact between the staff at the various

institutions, or through the activities of any research institutes which may be established in line with the Committee's recommendations detailed below. The Committee has already referred to the need for the higher education institutions to keep under review opportunities for the cooperative presentation of higher degree programmes.

- 6.85 The Committee also believes that Murdoch University might benefit if individual students or groups of students from other institutions were encouraged to include one or more Murdoch units in their programmes, and if opportunities for Murdoch staff to participate in undergraduate and postgraduate teaching at other institutions were extended. The Committee hopes that Murdoch University will also explore these issues with other institutions.

The Establishment of Institutes for Teaching and Research

- 6.86 The institutions of higher education in Perth have developed a number of relatively small activities in various academic fields which are to some extent complementary, and to some extent competitive: for example, in Mineral Sciences, Energy Studies, Asian (cultural) Studies and Languages, Psychology, Marine Science, and External Studies.
- 6.87 Each institution is now faced with problems of maintaining its particular activity in these areas with little prospect of growth in either student numbers or funds for teaching and research. There is a real danger of the development of a wasteful duplication or competition for the available students and, therefore, resources; indeed there is evidence that undesirable developments of this kind have already occurred.
- 6.88 It would seem eminently sensible, therefore, to identify areas of work within which effective joint action is possible, and in each area to establish a "coordinating group", comprising members drawn from each of the participating educational institutions and such other organisations as are appropriate in each case, to arrange for the maximum level of co-operation and coordinated development. Coordination could require a wide range of action, from full collaboration between staff groups located in each of the participating institutions (through "contracting", cross accreditation of courses, joint research supervision, collaboration in research and shared staffing arrangements), to concentration of all contributing staff (and students) within one institution.

6.89 The "coordinating group" might be the nucleus of an "Institute" (for example, teaching and research Institutes for Mineral Science, Marine Science, Energy Science). In general terms, an Institute's responsibilities might be defined as follows -

(a) To recommend to the participating institutions from time to time on the staff groups within each institution which are to be regarded as members of the Institute.

(b) To provide advice to the participating institutions and to the Western Australian Post Secondary Education Commission on

- the development and coordination of research activities in the particular field within the State, having regard to the special strengths of the universities, The Western Australian Institute of Technology, the Colleges and other organisations.
- the rationalisation and collaborative development of postgraduate training.
- the rationalisation and collaborative development of undergraduate teaching programmes, having regard to the availability of specialised facilities and specialised staff within the different contributing institutions, and the employability of diplomates, graduates and postgraduates.
- the relocation of member groups or facilities between institutions, as appropriate from time to time.

6.90 The Institute would act to ensure the optimal use of resources through a "Standing Committee" which would be responsible for the continuing oversight of teaching and research activities of the member groups. (This Standing Committee would comprise the "coordinating body" referred to above). Its composition would differ in detail in each of the different Institutes; but in general terms it should have representatives of the contributing educational institutions and, where appropriate, of State Government departments, Federal Government departments, CSIRO, and industry. It would need to have a clearly defined articulation with the administrative structure of the contributing institutions and clear lines of communication with their "governing bodies". It would be highly desirable to have an understanding that the advice which it tendered about development and coordination would

normally be accepted by these governing bodies. Consideration should also be given to the appointment of a full time chairman of the "Standing Committee".

- 6.91 The Standing Committee would be responsible for developing budget proposals for the operation of the entire Institute. The Institute's income will be derived from the participating institutions and (as appropriate) from external sources. Planning of its activities and expenditures would need to be "Institute-wide", rather than being based on separate action by its member organisations. The Standing Committee would therefore need to deal with the Institute's entire budgetary process.

- 6.92 Where appropriate, the Standing Committee should develop recommendations on appropriate staffing strategies to permit the operation of a flexible research and teaching programme. Provision for the appointment of visiting workers may be particularly valuable.

- 6.93 The Standing Committee could also be responsible for promoting the application of the research skills of Institute staff to current problems in agriculture, industry and commerce, and public affairs, through consultancies and contract research arrangements, as appropriate. The Committee considers that an Institute should be formed only when there is a likelihood of developing a vigorous programme of basic and applied research.

- 6.94 The Committee is of the view that action should be taken in the fairly near future to establish Institutes along the lines discussed in the preceding paragraphs in three areas; Mineral Science, Energy Science, and Marine Studies.

- 6.95 Murdoch University has a major interest in Mineral Science through its School of Mathematical and Physical Sciences and the Mineral Chemistry Research Unit. It offers programmes at both the undergraduate and postgraduate levels with a general emphasis on the processing of minerals and the extraction of metals. The Western Australian Institute of Technology's School of Mining and Mineral Technology offers programmes at the undergraduate and postgraduate levels in Mining Engineering, Metallurgy and Geology. Student and staff numbers in the Mineral Science

area at both institutions are relatively small, and there are signs of increasing competition for students. It seems to the Committee that much would be achieved if research programmes and undergraduate and postgraduate teaching could be coordinated effectively. While the impact on student load would be small, it might be appropriate for some aspects of the State's activities in the Mineral Science area to be focussed on the University.

- R.12 *The Committee recommends that the institutions concerned, and other appropriate organisations, establish a working party to investigate, in the light of the Committee's comments regarding the establishment of institutes, the feasibility of establishing an "Institute for Teaching and Research in Mineral Science".*

- 6.96 The two Universities and the Institute are all engaged in some aspects of teaching and research in Energy Science. Again, the numbers of both undergraduate and postgraduate students and staff at each of the institutions are relatively small. Energy Science is an area of study which is likely to become increasingly important over the next few years. The State Government has established a Solar Energy Research Institute to promote research in the Solar Energy field. It seems to the Committee that it would be advantageous to bring together the staff involved in Energy Science generally in the higher education institutions and perhaps in some other organisations, and to coordinate teaching and research in the area.

- R.13 *The Committee recommends that the institutions concerned, and other appropriate organisations including, perhaps, the Solar Energy Research Institute of Western Australia, establish a working party to investigate, in the light of the Committee's comments regarding the establishment of institutes, the feasibility of establishing an "Institute for Teaching and Research in Energy Science" to deal with studies of Energy Science in general and associated policy issues.*

- 6.97 The two universities and the Institute are all engaged in some aspects of Marine Studies, and the Committee understands that significant work is also being undertaken within organisations such as the State

Departments of Fisheries and Wildlife and Conservation and the Environment, the CSIRO, and within industry. Marine Studies is also an area which is likely to become increasingly important in Western Australia and which would benefit from a pooling of the resources in the various organisations which are active in teaching and research in the field. The Committee is aware that Murdoch University is involved in this area and believes that some advantages would accrue if some aspects of the State's activities in Marine Studies were developed on the basis of the University's existing strengths and specialisations.

- R.14 *The Committee recommends that the institutions concerned, and other appropriate organisations, establish a working party to investigate, in the light of the Committee's comments regarding the establishment of institutes, the feasibility of establishing an "Institute for Teaching and Research in Marine Studies."*

The Joint Use of Facilities

- 6.98 The Committee is impressed at the extent to which the higher education institutions in Western Australia are cooperating with each other in the joint use of expensive resources and facilities. It seems to the Committee that post secondary education institutions in Australia will be faced with an increasingly difficult resource situation over the next decade or so and that they will need to look for more and more opportunities of sharing resources and facilities. In Western Australia, it might be appropriate for the institutions to give some further thought to this matter, especially to -
- (a) the joint use of libraries;
 - (b) the preparation of audio-visual teaching materials;
 - (c) the sharing of resource materials for external studies; and
 - (d) the purchase and use of costly items of equipment.
- 6.99 In this regard, the Committee suggests that it might be helpful if the Chief Executive Officers (or their nominees) of all of the post secondary education institutions review regularly the joint use and development of facilities, cooperative teaching arrangements, and arrangements for the joint presentation of higher degree programmes.

Publicity for Murdoch University's Activities

6.100 It appears to the Committee that Murdoch University's activities and strengths are not yet sufficiently well known, nor has its public image made it sufficiently attractive to potential students. In part, this seems to be due to an early emphasis on the difference between Murdoch University and other more traditional universities, an emphasis which in some ways has become less appealing with the enlargement of the University, and changes in the employment situation and in public attitudes to higher education. In addition, and most importantly, it simply takes a considerable time for a new institution to become known and for it, and its graduates, to earn the respect of the community.

6.101 Despite these rather negative comments, the Committee believes that Murdoch University is well aware of the importance of achieving a good public image and notes that it has been active in providing information to potential students and to parents, schools and the community at large about its activities in teaching and research. The Committee commends these activities and believes that they should be continued and, perhaps, expanded. In the Committee's view, open days, schools liaison activities, community interaction of a non-academic type (for example, in sporting and cultural activities) and an active convocation, are likely to be particularly valuable in promoting the University's public image. In addition, the University might be able to make more extensive use of the FM radio station it operates in conjunction with The University of Western Australia to publicise its activities.

The Role of Small Universities

6.102 The Committee's terms of reference refer to the suggestion contained in the Williams Report that the range of subjects in small universities be reduced and the role of such universities be re-examined.

6.103 The Williams Report discussed in some detail the role of small universities and, particularly, the desirability of restricting the range of subjects offered in such institutions in the interests of economy and efficiency. Its considerations were set in the context of a discussion of the "precept" that a university offering courses in the Humanities and Social Sciences and Sciences needs at least 4 000 equivalent full

time students (which approximates a student load of about 4 000 WSU's) to provide teaching and research at reasonable cost.³ The Williams Report refers to the fact that this "precept" is based on assumptions about the number of departments in Faculties of Arts, Science, Social Science, and the number of staff in each department required to provide for specialisation. It suggests that while these assumptions have never been openly discussed, there are now signs that the Universities Council is reappraising its views, and that in the next twenty years it is likely that small universities will only be able to operate economically if they offer a smaller range of subjects than was envisaged during the planning stage and approved by the Universities Council for financing.

6.104 The Committee endorses the view that a small "liberal arts" university can offer academically acceptable programmes by concentrating activities within the Humanities, and the Natural and Social Sciences. It believes, however, that such concentration is only likely if development has proceeded in such a way that the University has been able to make careful and deliberate choices about what disciplines it includes in its programmes and what it excludes. Provided that such choices are possible, a small "liberal arts" university should be able to operate economically with significantly fewer than 4 000 WSU's, perhaps with as little as 3 000 WSU's. The Committee also believes that a number of recently established and still small Australian universities simply have not had either the opportunity to plan for limited development of this kind, nor the resources to provide for presentation in depth of the basic disciplines in the Humanities and Sciences.

6.105 In relation to Murdoch, the Committee has reviewed carefully this matter of size and educational and economic development. It recognises that Murdoch's range of programmes extends well beyond that of a "liberal arts" university, as about one third of its present student load is attributable to its two professional Schools, Education and Veterinary Studies. The Committee is also aware that the initial

3. *Education, Training and Employment*, Vol.1, p. 204.

planning for Murdoch University was based on rather optimistic assumptions about growth, and that the University soon realised that, in the light of changing circumstances, it would have to plan on the basis of more limited growth than originally anticipated. The Committee believes that the University has been careful about the range of development of its subject offerings and understands that it has undertaken at least one review of its units leading to termination of a number with small enrolments. Consequently, and bearing in mind that the University offers a very limited range of programmes at present, it seems to the Committee that it would be inappropriate to recommend action that would result in a further reduction in the range of programmes at Murdoch. Its need is perhaps rather to find ways of extending its present range somewhat; but in view of the relatively small size of the University and its limited resources, the Committee believes that further programmes should only be developed after very careful scrutiny of the impact on the pattern of enrolments and costs. (It is for this reason that the Committee suggests that Murdoch should make greater use of cooperative teaching arrangements to increase the range of subjects available to its undergraduate students. (See R.11)).

- R.15 *The Committee recommends that no major new activities be developed at Murdoch University unless and until it is clear that they can be adequately funded, and will attract significant numbers of additional students; and that Murdoch University continue on a regular basis its process of reviewing the subjects offered and the opportunities available for "contracting" additional subjects.*

- 6.106 The Committee also draws attention to the fact that acceptance of this line of reasoning implies that Murdoch's continuation as an independent university also requires acceptance of the fact that the cost per student at Murdoch University will remain relatively high for some considerable time. It is very difficult to be precise about the basis for the calculation of an "economic size" for a university, especially one which, for special reasons contains a most expensive professional School (Veterinary Studies). The Committee has not addressed itself to the question of "economic viability" except in the most general terms (for example, in commenting on the under use of facilities; the desirability of sharing high cost facilities such as libraries, computer installations, etc.;

and the cost of academic diversification in a small university). It accepts, however the Williams Committee's view that the economic size of Murdoch University, given the present formula for financial grants to universities providing studies in Arts, Science, Education and Veterinary Science, is approximately 4 500 equivalent full time students.⁴ The Committee's analysis of the potential for growth at Murdoch suggests that it may just reach this size by the year 2001.

The Implications of the Committee's Recommendations

6.107 As indicated previously, student load at Murdoch University in 1979 is a little below the minimum of its present target range. In addition, some limited growth is provided for in the target ranges which have been set for 1980 and 1981. The Committee believes that the action it has recommended can have only a limited impact on total student load during the remainder of the 1979-81 triennium, but should lead to increases in student load during the 1982-84 triennium and up to the year 2001. The potential effects of the Committee's recommendations are detailed in Table 6.2.

6.108 The table shows that on the basis of the Committee's recommendations (R.3, R.6 and R.7) and in the light of the various assumptions regarding the growth and distribution of enrolments, student load at Murdoch University could increase from 1 740 WSU's in 1979 to about 2 500 WSU's in 1984, and could increase further to about 4 700 WSU's in 2001. The Committee is of the view that while the various other recommendations it has made will not lead to further increases in student load, they should assist Murdoch's general educational development.

4. *Education, Training and Employment*, Vol. 1, p. 186.

TABLE 6.2
POTENTIAL EFFECTS OF THE COMMITTEE'S RECOMMENDATIONS
ON STUDENT LOAD AT MURDOCH UNIVERSITY, 1979-2001

	Student Load (WSU's)	
	1984	2001
Existing Student Load (1979)	1 740	1 740
Limit Enrolments at UWA ^(a)	+ 375	+1 400
Limit Enrolments at WAIT and the Colleges ^(a)	+ 250	+1 450
Concentrate Asian Studies at Murdoch ^(b)	+ 100	+ 100
Reserve Some Areas of External Studies for Murdoch ^(c)	+ 20	+ 20
Potential Student Load	2 485	4 710

Notes: (a) See Table 5.1
(b) See paragraph 6.63
(c) See paragraph 6.65

6.109 The potential student load figure of 2 500 WSU's in 1984 is somewhat in excess of the Murdoch University's present physical capacity of 2 200 to 2 300 WSU's. The Committee's calculations of potential increases in student numbers are necessarily tentative and it may be that a figure of 2 500 WSU's by 1984 is too optimistic. It seems to the Committee, however, that it should be possible for Murdoch University to achieve a student load at least equivalent to its present capacity of some 2 200 to 2 300 WSU's by 1984 and that the desirability of providing the University with the resources to cater for such a student load should be taken into account in planning for the 1982-84 triennium.

R.16 *The Committee recommends that in planning for the 1982-84 triennium the Western Australian Post Secondary Education Commission and the Commonwealth Tertiary Education Commission take into account the desirability of providing Murdoch University with sufficient resources to enable it to cater for a student load of at least 2 200 to 2 300 WSU's by 1984.*

6.110 The Committee's longer term projections suggest that if its recommendations are accepted, Murdoch University's student load could increase by some 3 000 WSU's to about 4 700 WSU's by 2001. It seems to the Committee that, as the Williams Committee suggested, a student load of around 4 500 WSU's would be sufficient to enable a university such as Murdoch, which offers courses in the Humanities and Social and Natural Sciences and in Education and Veterinary Science, to operate economically. It needs to be acknowledged, however, that the cost per student at Murdoch University will remain relatively high for some considerable time to come.

6.111 The Committee believes that the implementation of the action it has recommended will result in growth and development at Murdoch University. Further growth and development would enable Murdoch to capitalise on the significant progress it has made since its establishment and enable it to play an increasingly important and major role within the Western Australian community.

APPENDIX A

ORGANISATIONS, GROUPS AND INDIVIDUALS WHO MADE WRITTEN SUBMISSIONS TO THE COMMITTEE

The Committee considered written submissions received from the following -

(a) Murdoch University Organisations

Murdoch University
Murdoch University Academic Staff Association
Murdoch University Guild of Students
The University Salaried Officers' Association of Western Australia
(on behalf of the Murdoch University general staff)

(b) Murdoch University Staff

(i) Groups

Biology Staff
Education Staff
Environmental Science Staff

(ii) Individuals

Atkinson, Dr R.J.	Education Officer, External Studies Unit
Bain, Mr A.A.	School Administrative Officer
Baldock, Dr C.V.	Senior Lecturer in Social and Political Theory and Women's Studies Coordinator
Chiang, Dr T.H.	Lecturer in Chinese Studies and Chairman of the Chinese Studies Programme
Dilworth, Professor M.J. ¹	Professor of Biology (Microbiology and Biochemistry)
Elsegood, Mr R.R. ²	Information Officer
George, Dr D.E.R.	Senior Lecturer in Comparative Literature and Chairman of the Comparative Literature Programme
Gibbins, Associate Professor K.	Associate Professor in Psychology and Chairman of the Psychology Programme
Grandage, Associate Professor J.	Associate Professor of Anatomy, Division of Veterinary Biology
Guiron, Mr P. deC.	Director, External Studies Unit
Herbert, Dr P.A.	Temporary Lecturer in Chinese
Ho, Dr G.E.	Senior Lecturer in Environmental Engineering and Chairman of the Environmental Science Programme
Hodge, Dr R.I.V. ²	Senior Lecturer in Comparative Literature and Chairman of the Communication Studies Programme
Hooper, Dr J.P.	Lecturer in History
Kerr, Professor A. McB.	Professor of Economics
Kipp, Dr D.A.	Lecturer in Philosophy
Loneragan, Professor J.F. ¹	Professor of Biological Sciences (Plant Biology)

Mainsbridge, Professor B.	Professor of Physics and Chairman of the Physics Programme
Newman, Dr P.W.G.	Lecturer in Environmental Science and Chairman of the Population and World Resources Programme
O'Connor, Professor D.C.	Professor of Environmental Studies and Director of the Institute for Environmental Science
Parker, Professor A.J.	Professor of Chemistry and Director of the Mineral Chemistry Research Unit
Potter, Professor I.C. ¹	Professor of Animal Biology
Ruthrof, Dr H.G.	Senior Lecturer in Literature
Savage, Professor R.D.	Professor of Psychology
Schibeci, Mr R.A.	Lecturer in Education

(c) Murdoch University Students

(i) Groups

Biology Students
Chinese Studies Students
Comparative Literature Students
Economics Students
Population and World Resources Students
Psychology Students
Postgraduate Education Students

(ii) Individuals

Bradbury, Ms H.	Coolbellup, Western Australia
Cowell, Mr J.E.	East Maitland, New South Wales
Dutton, Rev. A.G.	Mosman Park, Western Australia
Fox, Ms J.	-
Gallaher, Mrs P.E.	Karratha, Western Australia
Lucadou-Wells, Miss R.	Wynyard, Tasmania
McGauran, Sister E.M.	Geraldton, Western Australia
Sullivan, Mr P.	Coordinator, Council of Student Representatives
Zink, Miss E.	Cottesloe, Western Australia

(d) Other Organisations

Academic Staff Association of the Western Australian Teachers Colleges
Australian Federation of University Women (Western Australia)
Australian Optometrical Association, Western Australian Division (Inc.)
City of Fremantle
Claremont Teachers College
Graylands Teachers College
Nedlands College
Peace Research Program, United Nations Association of Australia
The University of Western Australia
The University of Western Australia Academic Staff Association
The University of Western Australia Convocation
The University of Western Australia Guild of Undergraduates
The Western Australian Institute of Technology
The Western Australian Institute of Technology Academic Staff Association

The Western Australian Institute of Technology Salaried Officers Association
 The Western Australian Institute of Technology Student Guild
 United Nations Association of Australia, Western Australian Division
 West Australian Peace Committee
 Western Australian Post Secondary Education Commission
 Women's International League for Peace and Freedom, Australian Section
 Women's International League for Peace and Freedom, Western Australian Branch

(e) Other Individuals

Cant, Mr A.F.	Gwelup, Western Australia
Forrest, Mr P.H.	Assistant Director-General (Technical Education), Technical Education Division, Education Department of Western Australia
Gare, Mr E.C.	Darlington, Western Australia
Gentilli, Dr J.	Honorary Research Fellow, The University of Western Australia
Hitchens, Professor D.L.	Professor of History and Social Science, The Evergreen State College, Olympia, Washington, U.S.A.
Holmes, Mrs M.J.	Mosman, New South Wales
King, Mrs B.	Rossmoyne, Western Australia
Patterson, Mr K.J.	State Organiser, Churches of Christ in Western Australia Inc.
Reid, Mr T.A.	Director, Western Australian Regional Computing Centre
Stange, Mr P.D.	Lecturer in Asian Studies, The Western Australian Institute of Technology
Suter, Dr K.D.	Dean of Students, Wesley College within the University of Sydney
Wild, Mrs P.D.	Mount Pleasant, Western Australia
Williams, Ms H.	Arana Hills, Queensland

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1. Joint submission from Professors Dilworth, Loneragan and Potter.
 2. Joint submission from Dr's. George and Hodge.

APPENDIX B

EXTRACTS FROM SUBMISSIONS RECEIVED FROM HIGHER EDUCATION INSTITUTIONS

The extracts quoted below are taken from submissions received from Murdoch University, The University of Western Australia, The Western Australian Institute of Technology, Claremont Teachers College, Graylands Teachers College and Nedlands College. The Committee has also received submissions from a number of academic and general staff associations and student associations of the above institutions, and from The University of Western Australia Convocation. In general, the submissions from these organisations reflect themes which are present in the submissions from the respective institutions and which are detailed below -

Murdoch University Submission

- (a) *The main elements of Murdoch which give it a special character are the general support for inter-disciplinary approaches, which is encouraged by the structure of Schools rather than Departments; the first year of study, for Part I of degrees, in which the student is both obliged to take some course work outside the field of his or her likely specialisation and is enabled to choose additional electives as well as taking courses which are prerequisites for a particular programme; the large External Studies programme which is available both to distant students and to those within easy reach of the University; the encouragement of a system of independent study contracts; and the presence of a considerable proportion of mature age students in our internal as well as our external programmes. None of these special characteristics should be allowed to disguise the fact that a high proportion of academic work at Murdoch is in itself quite orthodox - it is a matter of general style, as well as a modest amount of "innovation", plus the fact that in many subject areas our approach and our coverage is different from what is offered at UWA, which entitles us to claim that we are indeed offering a genuinely alternative path through higher education in Western Australia.*
- (b) *Murdoch is, undoubtedly, a small institution by modern University standards. We do not feel that relative smallness is a serious disadvantage. Indeed, we think that intimacy in teaching is tremendously worthwhile and that the kind of campus life which should develop here has a good chance of being of higher human quality than is possible in very large institutions. There is no reason why scholarship should be unduly difficult of achievement here. What Murdoch may lack in sheer size in this context is compensated for by the near presence of UWA and WAIT. Between the three of us there is a sizeable community of research workers which is providing its own intellectual stimulus. In short, we embrace relative smallness happily, and would contend that, in educational terms we would, in*

many respects, be very content to be thought of as a small institution of high academic standards. The character and structure which has evolved should, in our view, be preserved in general terms and allowed to develop along lines now familiar to us.

- (c) But, while we are of a mind to agree that "small is beautiful". we are conscious that. in the difficult economic context of our time. we are a little too small at present. In strictly educational terms there are areas in which we feel the need to expand our capacity in order to achieve a better academic balance. In economic terms, we are not operating in some areas at the kind of level which has apparently become acceptable as "viable" in overall national University parlance.
- (d) Our basic need, therefore, is to find ways of ensuring modest, balanced growth over the next decade, growth which would enable us to keep up our entry standards, ensure balance between teaching and research and between disciplinary areas, and, above all, allow and encourage us to aim consistently for first class academic status.
- (e) We can talk confidently of the possibility of being able to accommodate 20% more students attending campus. (There is no big accommodation problem in the way of increasing our external numbers, but for reasons of academic and institutional balance, we would not want to exceed significantly our present proportion of external enrolments, which is now running at 36%). We could by doubling up office accommodation for sub-lecturing staff, find space for about 20 additional academic staff members. In rough figures, therefore, we could take in our present accommodation another 350 WSUs over what we have this year, bringing our total WSUs to about 2100, and we could find room for a growth of academic staff up to about 200.
- (f) The obvious next step in permanent building (other than student residences which are our present first priority and the probable need for Library space), would be to commission an administration block which would release a small part of the Library building and a large part of West Academic II, thus providing room for substantial further expansion, though only in non-laboratory studies.
- (g) This is the appropriate point at which we should indicate the various possible ways in which Murdoch might be helped towards that early, modest and balanced growth which, it has been argued, is the most desirable kind of development for the University's next years of operation. Inevitably, we see several options.
- (h) First, at one extreme, we could take the view that a new university must be expected to take time to commend itself to its parent society, that the process is not easy, and that the somewhat less than expected growth so far should not be regarded as more than a limited term misfortune. There is undoubtedly some merit in this view, but given all the national and local circumstances, we are rather doubtful whether so *laissez faire* an attitude would guarantee our stability and our desired modest growth, unless there was to be a very early and heavy increase in Western Australia's population.

- (i) *Second, we could think about action taken outside Murdoch which would be beneficial to us. Thus a firm limitation on enrolment and innovation in specified academic areas by other tertiary institutions would in itself make Murdoch's growth in those areas more probable.*
- (j) *Third, Murdoch might be encouraged to take on entirely new work not done elsewhere in the State. Some possibilities are already at an advanced stage of preparation...*
- (k) *Fourth, the most promising existing area for immediate expansion is that of postgraduate study. We have been unable to accept many well qualified students wishing to do research. Our ability to take post-graduates is controlled by the Universities Council guidelines. We have some reason to believe that a re-allocation of numbers between undergraduate and postgraduate students would be considered sympathetically, and this could mean an increase in student load, though no expansion of our permitted total of student enrolment or of resources during the rest of the present triennium.*
- (l) *Fifth, there is the idea of more co-operative teaching and research among all the tertiary institutions, but particularly among the two Universities and WAIT. Some useful co-operation already exists, and there may well be other areas in which similar sharing of facilities and talents would be both possible and academically worthwhile... But it should be made clear that, so far as adding to student strength at Murdoch is concerned, the benefit of both the existing and any foreseeable additional cooperation would be marginal.*
- (m) *Sixth, there is the possibility of moving into non-degree and continuing education work. This we view with caution, being particularly mindful of our wish to concentrate our efforts primarily on teaching for first and postgraduate degrees and on research. Some indication of possibilities in external, non-degree and continuing education work is given in answer to specific questions later.*
- (n) *Seventh and last, we come to the possibility of transferring academic work from other tertiary institutions to Murdoch. This possibility, which looms so large in the Terms of Reference of the Committee of Inquiry, is by its nature an embarrassing one for us. We appreciate fully the likely reactions of fellow institutions, and have some lively apprehensions about the difficulties involved in both making and recovering from surgical transplantations. But we cannot deny that, short of full-blooded implementation of a policy of limiting the activities of other tertiary institutions, or a rather unlikely large, rapid and early growth in the local demand for university education, perhaps the most obvious way to give us a firmer base from which to build some modest expansion would involve transfers of work. There might well be advantage in some areas of study from concentrating them in Murdoch, quite apart from the special concern for student numbers. We list... (see below) several tentative suggestions which have arisen out of careful consideration within Murdoch. We do so, not because we regard the items listed as constituting a well defined "package": we do so in order to provide the Committee of Inquiry with a field of possibilities, all of which we would regard as worth further investigation, and some of which the Committee may feel should be endorsed.*

- (o) In presenting these seven possible approaches we have been very conscious that there is probably no single solution. We are particularly concerned to emphasise our hope that any changes in our circumstances would not distort the character of the University as it has developed hitherto, but would allow us to continue our present very satisfying work and to go on offering our special kind of University to the people of Western Australia.
- (p) The most fundamental decision on structure made by the Planning Board was to have Schools devoted to fields of study which included the interests of several disciplines, rather than Departments each concerned with a single discipline. In turn the School concept is the framework within which inter-disciplinary approaches to teaching and research are cultivated, and because of this orientation of people towards co-operation across subject boundaries, the same openness of mind develops across School frontiers.
- (q) The organisational structure, which treats External Studies simply as an alternative mode of study, with the same courses being presented by the same people both on campus and off campus, is fundamental to its integration within the University's educational programme. By having only a small External Studies Unit and by insisting that the Schools should treat external work equally with internal work through the medium of the same academic staff, the External programme is part of the normal every day concern of teachers who are also responsible for internal work. No 'hiving off' of External work to a special staff has been allowed to develop.
- (r) Over the past few years, our developing strength in the areas of postgraduate study and research has been most encouraging. We have attracted not only established researchers who have joined us from other universities, sometimes with research teams or assistants, but we have also attracted a large proportion of young staff who are keen researchers. This has had the effect of attracting very well-qualified people from both within Australia and outside to work as postgraduate students.
- (s) The staff of the University have performed extremely well in attracting outside research grants. Between 1975 and 1978 the total amount attracted to the University specifically for research doubled from \$242 000 in 1975 to \$500 000 in 1978. The Australian Research Grants Committee awarded grants totalling \$198 000 for 1979, an increase of \$62 000 over the previous year's grant. This can be compared with ARGC grants to the other newer or equivalent sized universities, for instance, Griffith University which attracted \$166 000 and Deakin University which attracted \$35 000.
- (t) Suggestions for possible transfers of work to Murdoch from other tertiary institutions have come forward. They concern five areas - Education, Asian/South-east Asian Studies, English etc., History, and Psychology/Social Work.
 - (i) Education: The strong reference to teacher training in the Terms of Reference of the Committee of Inquiry has naturally aroused curiosity as to the possibility of some large scale transfer of work being made to Murdoch. We would point out in that context

that large scale transfer would raise very early problems of physical accommodation. We would also stress the fact that any transfer of teacher training would affect other Schools than Education and would increase the teaching load in several areas.

If transfers were to be possible, our School would be particularly keen to have the concern for Special Education transferred from UWA and three areas transferred from WAIT - Pre-school or Early Childhood Education (which would bring a need for a Pre-school Centre on or near the Murdoch campus), Science Education, and Educational Administration. We would also point out that Further Teacher Education is being developed externally by no less than four tertiary institutions and would press the case for Murdoch's particular potential effectiveness in this heavily duplicated area. Lastly, we feel that the Master of Education should not be offered by WAIT as the two universities can very adequately meet demand.

- (ii) Asian/South-east Asian Studies: At present Asian Studies are carried on at UWA, WAIT and Murdoch. We would claim to have a well articulated approach and programme, which could become, both for teaching and research, a natural focus for all such study in Western Australia. There are two suggested changes. One is for Murdoch to take over some of WAIT's involvement in South-east Asian Studies. This would need careful consideration because of the large language emphasis at WAIT which might not fit easily into a combined operation. The second approach is on a wider Asian basis and would involve, in addition to the transfer from WAIT, a transfer of Japanese Studies from UWA.
- (iii) English etc.: There are felt to be strong possibilities of being able to feed into the School of Human Communication at Murdoch, certain aspects of the present WAIT programme in Stagecraft and Film. It is suggested that theatrical and historical aspects of those areas, together with a development of workshop activity in experimental creativity in film, TV, writing and drama would be particularly well placed at Murdoch. Our Communications Studies programme is being recast to have a definite linguistic emphasis and in that context it is also suggested that the transfer of anthropological linguistic expertise from UWA would help greatly to build up the Murdoch School.

A much bigger possibility which has been mooted would be the transfer of large parts of the present WAIT Department of English activity in such areas as Literature, Australian Studies, Creative Writing, Theatre, Arts, Film and TV (but not the technical production aspect of those areas). Postgraduate work in Literature would be particularly appropriate to Murdoch.

- (iv) History: The History programme at Murdoch is keen to consolidate theme areas in Australian Studies, Women's Studies, Southeast Asian Studies and twentieth century British history. This would effectively round out courses, and cater more effectively for the largest External Studies Programme enrolment in the university. Our historians are particularly aware of the heavier enrolments which would come their way in the event of an increase in teacher training at Murdoch. It has been suggested that selected WAIT history staff in the above areas could appropriately be moved to Murdoch, and readily accommodated. Further, External Studies in History could then be centralised at Murdoch.

- (v) Psychology/Social Work: Psychology is one of Murdoch's most successful areas. Our programme is more applied and developmental than is the programme at UWA, and the two Universities, therefore, complement each other most usefully. The School feels that Murdoch could very effectively take over some or all of the existing Psychology teaching at WAIT. Certainly, fourth year Psychology could appropriately be transferred and thus help to boost the flourishing advanced teaching and research already going on here. But there is confidence that the whole of the WAIT programme could be absorbed and the suggestion has also been made that a new Professional School of Psychology and Social Work could be established successfully at Murdoch.

We wish to stress again what was made clear in the General Statement... that these possibilities are tentative and are not presented as a package. Each is, in our view, worth serious consideration and further investigation. Obviously in the case of the largest moves suggested - teacher training, English etc., and Psychology - problems posed by lack of physical accommodation could become almost immediately apparent.

The University of Western Australia Submission

- (a) Introduction... The University of Western Australia has contributed in very large measure to the foundation and development of Murdoch University. Initially, the University endorsed the recommendation by both Federal and State Governments, that Murdoch be founded as a separate institution of university status. Individual members of this University contributed to the initial development of Murdoch. The University of Western Australia donated the land on which the new institution was built.

This support has been continuous. The University of Western Australia co-operated in transferring all external studies to Murdoch University, thus giving Murdoch the opportunity to develop a far more extensive external service than was possible here, and there has been further co-operation with Murdoch in the establishment and working of the 6UWS FM Radio Station. Many individual staff members from this University have been appointed to higher posts at Murdoch. The extent of co-operation with and assistance to Murdoch is closely bound up with the stabilisation of numbers at this University. For some years there has been strict control of entry numbers here, and the development of courses and the pattern of Faculties has been designed to give the most satisfactory balance and viability to the University at its present size. In achieving this balance, the University has constantly borne in mind its responsibility as a senior institution of tertiary education in Australia.

- (b) First Term of Reference: To consider the suggestion contained in the report of the Williams Committee that the range of subjects in small Universities be reduced and the role of such Universities be re-examined.

The minimum economic size of a university, as stated in the Williams Report, may be open to question. Universities here are at some distance from all other universities in Australia, and Western Australia has a fairly fast growing population. Clearly there must be room for a second university (particularly as The University of Western Australia may well have reached its optimum size), to accommodate the additional numbers arising from the growth in population.

Reducing the range of subjects in a small university could make it less attractive to students and so reduce enrolments. Small universities necessarily cannot offer the same range of subjects as the large ones, but it is healthy for them to compete where possible, if the competition is justified by demand. In addition, the universities must take account of the demands of the community for the provision of specialised courses, training small numbers of students for key roles in the community.

- (c) Second Term of Reference: To consider present teaching activities, such as teacher training, which are duplicated at The University of Western Australia, Murdoch University and the W.A. Institute of Technology, and where Murdoch University could be strengthened by rationalisation and transfer of activities.

...A strongly held view in this University is that the training of secondary teachers, at least in the basic academic disciplines, should be undertaken at university level. The minimum qualification should be a university degree and a Diploma in Education.

- (d) Third Term of Reference: To consider possible areas of co-operative teaching between institutions to assist the development of the programmes of Murdoch University.

This University supports the idea of co-operative teaching, and it could possibly be developed to a minor extent. However, in considering any major development of co-operative teaching between this University and Murdoch, the practical issues must be paramount. These stem principally from the differences in the type of courses offered and the degree structures: the distance between the two institutions: and differences in the academic year and timetabling of classes.

It is unlikely that co-operative teaching efforts of any magnitude can be made in the light of these difficulties, and it should be noted that Murdoch was in fact intended to have courses and degree structures differing from those at the University of Western Australia.

It is questionable whether co-operative teaching would in any way increase student numbers at Murdoch, or significantly reduce costs.

- (e) Fourth Term of Reference: To consider the possibility of transfer of other selected activities from other institutions to Murdoch University.

This needs to be recognised as a most expensive proposition, involving new buildings, transfer of equipment, and possible uneconomic use of buildings vacated.

There is also considerable danger in transferring long-established and well patronised university courses which are at present contributing integrally to the balance and viability of the University of Western Australia. It would be a poor policy which destroyed the balance and optimum size of one university in order to shore up deficiencies in another university whose viability was in question.

If the transfer of courses is considered, it must be remembered that transferred departments may not carry their student enrolments with them. If the factors, whatever these are, which cause low enrolments

at Murdoch remain, potential students of the transferred courses may choose to study a different course at the institution of their first choice, that is, selection of the institution may be more important than selection of the course. Further, although the initial choice of institution may not always be linked to a student's home location, in any transfer of course students may well prefer to continue to study in the same location - for example, if the University were to give up courses, students might choose another institution north of the river, rather than transfer to Murdoch.

In any question of transfer, due account must be taken of contractual obligations to the staff involved, both at Murdoch University and at the transferring institution.

- (f) Conclusion: This University most strongly supports the maintenance of Murdoch as a separate, university institution. It is the function of universities to provide the highest intellectual training (there are, after all, no institutions of quaternary education), and to provide opportunities for enrolment for all those able to take advantage of such education. As the University of Western Australia is not now increasing its enrolments, it is therefore essential for Murdoch to retain its university status.

Since its inception, Murdoch has moved away somewhat from the innovative courses from which it started, and which, possibly because they were not obviously career orientated, have not attracted very large numbers. It should be remembered that Murdoch did not accept its first undergraduates until 1975, and that, unlike Deakin and Wollongong, it did not replace an existing institution. In these circumstances, its achievement in student load is by no means indefensible. So far, Murdoch has been geographically isolated, with poor public transport. Population growth in new suburbs south of the river has been much slower than expected. Only now are the suburbs in the immediate vicinity of Murdoch becoming developed, and this should result in a larger student enrolment. The figures provided in the Williams report can be misinterpreted, in that the Veterinary School is included in the overall average, and this makes the costs appear unduly high. Even so it should be noted that the operating cost per student at Murdoch is not much above that of Griffith or James Cook Universities.

The Western Australian Institute of Technology Submission

- (a) In further elucidation of its views on the nature of technology and on breadth of studies appropriate to a college, the Commonwealth Advisory Committee on Advanced Education in its Second Report (1970-72) stated: "The colleges' involvement is with technology, which may be defined as the application of knowledge to satisfy human need. The concerns of technology are therefore as wide as those of human need, and embrace the application of knowledge in the social sciences, languages, art and design, as well as in the physical and biological sciences and engineering.
- (b) In broad terms the Institute has defined its responsibilities as being :
- to define community needs, interests and desires which can be met by a college of advanced education that interprets its charge broadly, and

- within the limits of its present expertise and resources to respond to those carefully evaluated community-based needs, while
 - anticipating future developments and preparing to respond to them in an educationally sound and relevant way.
- (c) More specifically these responsibilities have been spelt out in operational terms as:
- a regard for students' occupational objectives, which implies a strong vocational orientation and a practical emphasis
 - a desire to foster excellence in the application of knowledge
 - a responsiveness to the needs of the community and a readiness to adapt to change
 - a direct link with industry, business and the professions
 - the provision of a full range of courses as appropriate from associate diplomas to Master's degrees
 - special provision for mature-age students
 - flexible entrance requirements
 - a commitment to the provision of continuing or life-long education
 - the conduct of research which is directed towards the solution of practical problems
 - an emphasis on interdisciplinary studies
 - an emphasis on a concern for students and the quality of teaching offered to them
 - a willingness to experiment with non-traditional patterns of teaching and learning
 - a concern with "openness" not only in terms of flexible entrance requirements but also in terms of "accessibility", e.g. in such matters as granting credit for work experience, providing bridging courses, maximising educational opportunities for residents in remote areas, facilitating ease of transfer to and from other post-secondary institutions, etc.
- (d) In terms of its graduates, the Institute has aimed at the development of people who are :
- well prepared in knowledge, skills and professional attitudes to become efficient practitioners in their fields at an appropriate level, applying knowledge to the solution of relevant problems

- . sufficiently grounded in theory and general principles as a basis for effective performance and for continued learning
 - . able to read and listen critically and communicate effectively
 - . appreciative of the limitations of their own knowledge and skills and of the value of the viewpoints and contributions of others
 - . aware of the social implications of their particular fields and of their social responsibilities
 - . motivated to continue their education both formally and informally in order to adapt to change, and effectively equipped with learning skills for this purpose
 - . enriched in their personal development and interests by their experience in the Institute.
- (e) The present range of studies at the Institute is precisely that proposed by the Jackson Committee and accepted by the Government at the inception of the Institute. It was clearly the decision that it was not in the interests of the State to retain a number of separate institutions in various fields, some of them clearly non-viable in any foreseeable future. In taking this step, Western Australia was the first state to adopt rationalisation, a recommended process other states now follow to a limited degree. In Western Australia it was largely successfully and relatively easily achieved at the beginning.
- (f) The Jackson Committee... also held the view that "one good reason for welcoming this development is that since technologists and professional men are immediately involved in applying knowledge to and in human society, they need an educational environment in touch as much with the humanities and social sciences as with technologies."
- (g) The Institute has eight schools, each headed by a dean. The aim in forming the schools has been to integrate related fields so that the school acts as a cohesive force between its various elements. This makes for more effective and efficient use of resources, in units of a manageable size with which students and staff can reasonably identify. The school concept encourages greater integration and coordination in educational terms.
- (h) WAIT-AID, a consultancy company established by the Institute in 1971, has a primary purpose of keeping staff in touch with current problems in their professional fields in order to assist them in maintaining the relevancy of the courses they teach.
- (i) Research has a role in supporting both the teaching and the applied emphases within the Institute. It also contributes to links with industry and the community.
- (j) Research is not explicitly taken into account in the funding of the Institute. However, along with other CAEs, the Institute has always been given encouragement by the Commonwealth authorities for staff members to undertake consultancy and investigational work on a contract basis and to seek outside funding for research. In giving this

encouragement the authorities have placed the emphasis on applied research with a direct relationship to the teaching of the staff member concerned. Research is therefore seen as being clearly supportive of teaching rather than an equivalent function with teaching as tends to be the position in universities.

- (k) Members of staff have been increasingly successful in application for research grants from such bodies as the Australian Research Grants Committee (ARGC), Educational Research and Development Committee (ERDC) and National Health and Medical Research Council (NHMRC).
- (l) Many staff pursue research activities out of personal interest and some projects are assisted by use of Institute equipment and/or some limited support from departmental funds or deans' reserves. In this regard, research is seen by the Institute as an important avenue for staff development. The 1978 issue of *Techne...* provides an overview of current research and community development projects in the Institute. From this, both the teaching and applied emphases are evident. In connection with those few projects which may not be so clearly pointed in these directions, we would draw attention to the view expressed by the Jackson Committee that -

"colleges of advanced education ... should not be prevented by arbitrary definition from participating in the advancement of learning and scholarship."

- (m) The Institute's history also indicates that internally considerable planning has been undertaken with regard to the organisation of its academic activities. The present integrated and inter-disciplinary academic organisation in the Institute has been the result of progressive refinement over a number of years, and the Institute firmly believes that this organisation, only recently achieved, has the potential for meeting the needs of the community to an even greater extent in the future than in the past.
- (n) The Institute's present scale and diversity should not simply be seen in terms relative to other institutions. The Institute considers that a number of benefits to its users result from its scale and diversity. For example, by policy all WAIT courses facilitate a liberal education and sponsor student access to the considerable resources of the Institute. The opportunities provided for flexible course arrangements and student mobility within the Institute are considered by it to be unequalled in Western Australia and particularly relevant to the present and foreseeable employment needs of the community. A measure of this relevance is provided in results of a recent survey of over 1,500 Year 12 students in Western Australian schools (conducted by Dr J. Currie - formerly of the WAIT School of Teacher Education). These students ranked WAIT the highest of all higher education institutions in Western Australia in terms of job opportunities for graduates, practical courses, and social environment.
- (o) It is consistent with the charter of the Institute for its courses to have an emphasis on the application of knowledge in a variety of disciplines. Its graduate programmes :

- . provide an avenue for postgraduate study which is different in kind from what is available elsewhere, but is at least equal in standard. Such programmes generally complement similar level courses conducted in other tertiary institutions in this State
 - . are concerned primarily with the application of knowledge to serve the needs of the community rather than with the pursuit of "pure" research of a highly specialised and theoretical kind. They are designed to satisfy a demand for vocationally oriented courses at postgraduate level which will meet the professional or other requirements of practitioners and the community.
- (p) The Institute believes that its philosophy and policies on postgraduate studies and project and research work provide :
- . assistance to industry and the community by providing a milieu in which applied research may be conducted and encouraged;
 - . the incentive for teaching staff to remain abreast of developments in their field and to achieve a higher excellence in the retrieval, communication and application of knowledge; and
 - . for the extension of knowledge and the application of such knowledge.
- (q) The Institute firmly believes that its postgraduate activities provide an alternative kind of PG education for students which is generally and more directly professionally oriented. In the course of discussions on proposed developments, due attention must be given to the real differences which exist between university and CAE postgraduate programmes.
- (r) We would respectfully suggest that the prime concern in the consideration of the Committee in making its enquiry should be the interests of students and the community rather than the problems of institutions.
- (s) We would also suggest that the problems seen with respect to Murdoch University can only be properly considered in the context of the total system of tertiary education. To consider issues such as teacher education only in relation to particular or selected institutions may well result in inadequate or ineffective solutions.
- (t) The Institute would be prepared to enter into discussions on any co-operative action which might be seen as contributing to the future economic viability of Murdoch University. Whilst we recognise the practical difficulties which may be involved in implementing proposals, the areas such as the following might be brought under review :
- . the recognition by one institution of studies completed at another

- . the facilitation of students incorporating studies from one institution within qualifications being undertaken at another institution
 - . the facilitation of the transfer of students with appropriate recognition of their studies
 - . contracting arrangements
 - . co-operation and co-ordination in the provision of services in libraries, computing and administrative areas
 - . co-operation in the use of academic staff and in research
- (u) The Institute views with concern the suggestion of the transfer of activities and would consider any proposals of this kind should take into account the following points which we realise the Committee may already have in mind :
- . Oversimplification by assuming that things called by the same name are of the same nature should be avoided i.e. the assumption that teacher education in one institution is equivalent to teacher education in another institution, or that a master's degree in one institution is the equivalent of a master's degree within the same general field in another institution. Such courses may vary not only in the particular areas within the general field to which they are addressed, but also in their approach influenced by the philosophy of the institution and the context which this provides. It follows that transfer of a course from one institution to another may change that course significantly to the disadvantage of the students and of the community by modifying the relevance of the course to the needs of either or both.
 - . Transfer of a course may not lead to the transfer of students since they may decide to go elsewhere or not to pursue tertiary education.
 - . It would be essential to the economy of the system as a whole and of particular institutions from which activities were transferred that the staff should also be transferred.
 - . The transfer of activities from the advanced education sector to the University sector raises some fundamental questions relating to the system of post-secondary education. WAIT, for instance, has consistently built its courses around the philosophy postulated for advanced education. If it is appropriate then to move any one course from WAIT into the University sector, why not other courses? And if from WAIT, why not from any other CAE? What validity then remains in the sectoral arrangements once more confirmed by the Williams Committee?
 - . The Williams Committee has further recommended that the universities should become more selective in their recruiting of students whilst the colleges retain their established flexibility. What then is to happen to the students who would

currently be acceptable in a college but may not be acceptable in a university, particularly if the Williams' proposal is followed? One of the statements made during the planning of Murdoch University was that it was intended to cater for a different kind of student from those who went to WAIT.

- . The consideration of the transfer of any course should take into account its integration within the fabric of the ceding institution and the impact of the move on that institution as a whole. In WAIT this is nowhere more so than in teacher education which gains much of its particular character and makes a wide contribution by the participation of its students in studies distributed widely across the campus.
- . We would not believe it to be in the interests of the students or the community if expediency in seeking to solve problems apparent in one institution resulted in the transfer of courses from another institution which operates under a significantly different philosophy, which has achieved in response to this philosophy considerable student and community support, which has demonstrated itself as efficient and which has achieved a high degree of leadership among institutions of its kind with respect to innovation and to national and international standing.
- (v) We would consider that possibly the major cause of problems which are seen with respect to Murdoch University arise not from the properly established activities of other institutions but from the fact that the University was established at a time when the growth of tertiary education was levelling off and the earlier signs pointing in this direction were not generally read.
- (w) The longer term future of Murdoch should be kept in mind in terms of its location within a state with growth potential and in which the University of Western Australia and WAIT as the major multi-purpose higher education institutions are unlikely to experience any further significant increase in student numbers.
- (x) Care needs to be taken that in providing for the resolution of the problems of Murdoch University, other problems are not created within the tertiary system which may be at least as costly in social or educational terms as in purely economic terms. In judging the economic costs involved in maintaining Murdoch University, its peculiar nature should be appreciated. It would seem to be essentially a liberal arts university together with a necessarily highly expensive veterinary school, rather than an "across the board" institution involving a wide range of cost levels in its various activities. The making of direct cost-level comparisons is therefore difficult.

Claremont Teachers College Submission

- (a) Each post-secondary institution has a role to play and a function to perform in an overall State plan and each should be allocated those responsibilities it is best able to perform.

- (b) *The long term planning for the continuing future of Murdoch University should be seen in the context of its role as a university and not at the expense of other post-secondary institutions.*
- (c) *If, however, long term planning is likely to affect other institutions in the post-secondary sector, the State's foreseeable needs should be paramount. Such a plan should derive from a comprehensive examination of the roles and functions of the post-secondary institutions in Western Australia.*
- (d) *The roles and functions of the institutions involved in post-secondary education are best arbitrated by WAPSEC which may require enhanced authority in regard to developments in the university sector. WAPSEC should have the power to control and coordinate all sectors of post-secondary education where overlap in role and function is likely to prove dysfunctional.*
- (e) *The role and function of the various sectors need more precise definition particularly at interfaces where dysfunction is likely to occur. Not only should balance in the system be preserved but also balance within institutions in terms of their long term viability as an essential unit in the system.*
- (f) *Both the WA Institute of Technology and the Technical Education Division should be required to concentrate on technological and technical studies in their applications and lessen their current involvement in other areas, particularly the liberal arts and the non-technological professions.*
- (g) *Any plan for Murdoch's continuance should not lessen the continued viability of other institutions within the system.*
- (h) *Any relocation of programmes to Murdoch should be at the expense of those institutions which can most easily absorb their loss. These institutions are likely to be The University of Western Australia and The Western Australian Institute of Technology.*
- (i) *The role of non-traditional or alternative university models warrants close examination if cooperative teaching or integration of courses is envisaged.*
- (j) *Any new programmes assigned to Murdoch University should be appropriate to that institution and within its staff expertise. (For example, with the collaboration of the W.A. School of Mines and WAIT, Mineral Technology might well be established at Murdoch.)*
- (k) *Murdoch's liberal admission policies should be continued (with due regard to the issues of access, selection and portability stated in the Williams Report) and arrangements made with other institutions to provide more flexibility in the recognition of alternative awards and studies.*
- (l) *Murdoch could well provide a comprehensive Summer Session to support its external studies programmes and as a means of increasing its enrolments.*

- (m) *It is possible that WAIT might relinquish those aspects of its Social Science, Communications and Arts programmes which are most independent of its other technologically based programmes. Such programmes could be re-developed at Murdoch and thus strengthen its Arts faculty.*
- (n) *Additionally, Murdoch should develop new courses, particularly at graduate level - for example in the Fine Arts, where there appears to be a State need. Similarly post-graduate studies at the masters level in Library Science has been suggested. To compensate WAIT for any decrease in enrolment it should be required to develop those vocationally and technologically oriented courses currently offered by the TAFE sector and which are really tertiary level.*
- (o) *Transfer of courses, staff or students would of course need to accord with the conditions of amalgamation of colleges and universities adhered to by the Universities Council. (This proved an issue at Wollongong.)*
- (p) *In summary, the key to the future of Murdoch University is continued moderate growth towards becoming a relatively small, limited university. Growth would appear to come predominantly from within the university sector. Consideration could be given to the transfer of some appropriate courses presently at WAIT to Murdoch. Both WAIT and TAFE should return to their intended purposes. In view of the problems facing teacher education, pre-service education should be returned to the specialist colleges.*

Graylands Teachers College Submission

- (a) *register general agreement with the submission of the Nedlands College and emphasise the following: this college does not support the closure of the Murdoch University nor its amalgamation with the University of Western Australia, but it would strongly oppose any move to sacrifice in any way the activities of any of the colleges in order to foster growth at Murdoch. Indeed, there is a strong feeling that the proposed closure of the Graylands College is not unconnected with the proliferation of institutions involved in primary pre-service teacher education.*
- (b) *Finally, we agree that with effective coordination of the balanced growth of the tertiary education sector in Western Australia, there is little doubt that Murdoch University is assured of steady growth and the achievement of what the Williams Committee deems the economically viable University population of 4000.*

Nedlands College Submission

- (a) *Courses offered by Colleges of Advanced Education differ in emphasis from those offered by Universities. Whereas university courses tend to have a strong theoretical and research orientation, courses in Colleges tend towards professional practice and application. All predictions relating to employment opportunities of tertiary graduates suggest that the balance of manpower needs over the next decade will be towards an increasing proportion of graduates with practical professional-specific preparation.*

Reports of the Graduate Careers Council of Australia showing the employment of recent graduates from tertiary institutions confirm this general trend ...This College considers that Murdoch's numbers should not be increased by transferring courses and students from the Advanced Education Sector to the University Sector thereby shifting the balance of tertiary graduates away from those with a practical/applied orientation towards those with a theoretical/research orientation. This view is further emphasised when the percentages of unemployed graduates from the University sector in this State (10.5 percent and 30.6 percent respectively) are compared with the national average for Universities of 8.9 percent.

- (b) A very strong demand for places in Colleges of Advanced Education is evidenced by data extracted from tables prepared by the Tertiary Institutions Service Centre which record applications for admission into first year courses in 1979. ...It is a quite unproven assumption that the same number of students would continue to apply for a specific course if it was transplanted from the Advanced Education Sector to Murdoch University, nor can it be in the long term interests of Murdoch University to force students electing for courses in the Advanced Education Sector to apply for a place at the University instead.
- (c) The Williams Committee contends that a University is below economic size if its population is below 4000 students. It is interesting to note that The University of Western Australia, established in 1912 was below this arbitrary figure for the first 50 years, exceeding 4000 for the first time in 1963. For its first forty-four years (until 1957) The University of Western Australia had fewer students than currently enrolled at Murdoch University, while at the same time offering a much wider diversity of courses than does Murdoch.
- (d) The population of Western Australia, even on the more conservative predictions of the Borrie Report will continue to grow. By placing a ceiling on the two major tertiary institutions, The University of Western Australia and The Western Australian Institute of Technology, a slow but steady growth is assured for Murdoch and the smaller Colleges, Churchlands and Mount Lawley which have capacity for growth. Within ten years Murdoch should achieve the arbitrary 4000 through the gradual growth of existing courses and the development, when justified, of courses in areas related to the existing expertise of the institution. A second University with a somewhat different philosophy from the Western Australian University must be in the general long term interest of the maintenance of an effective tertiary system. Nedlands College does not support the closure of Murdoch University or its amalgamation with The University of Western Australia, nor does the College support any major surgery to Colleges of Advanced Education to foster dramatic growth at Murdoch. Given that Murdoch University exists, it is our view that any solution involving major reallocation of courses between institutions will prove disruptive and expensive in the short term and unnecessary and undesirable in the long term.

APPENDIX C

THE DEVELOPMENT OF THE HIGHER EDUCATION SYSTEM IN WESTERN AUSTRALIA - SOME BACKGROUND FACTORS

- 1 The historical development of the various higher education institutions in Western Australia is outlined briefly in Chapter 2 of this report. The development of the institutions has taken place in the context of a number of major reports on education. These reports have strongly influenced the role and development of institutions in the past, and will also play a part in determining future directions of development in the higher education system. It is appropriate then, to devote some time to a brief discussion of some of these reports.

The Murray Report

- 2 The Murray Report on Australian Universities was published in 1957. The report resulted in substantially increased Commonwealth funding for Australian universities and thus paved the way for a rapid expansion in student numbers at The University of Western Australia in the sixties. The report also discussed in some detail the role of universities and the following extract indicates the Murray Committee's views -

The Committee considers the role of the universities in the modern community as threefold. The most urgent demand which is made of them today is for more and more highly educated people in every walk of life and in particular for more and more graduates of an increasing variety of kinds. But education of the graduate is only one of the two central aims of a university; the other is research, the discovery of new knowledge for its own sake. Finally, the universities are or should be the guardians of intellectual standards and of intellectual integrity in the community.¹

- 3 The Murray Committee's views on the role of universities are still relevant today and do not differ to any great extent from the following view expressed by the Universities Commission in 1975 -

The purposes for which universities are founded and for which society continues to maintain them include the preservation, transmission and extension of knowledge, the training of highly skilled manpower and the critical evaluation of the society in which we live.²

1. *Report of the Committee on Australian Universities*, Sir Keith Murray, Chairman, Canberra: Government Printer, 1957, p.8.
2. *Sixth Report of the Australian Universities Commission*, Universities Commission, Canberra: A.G.P.S., 1975, p.58.

The Martin Report

- 4 The Martin Report on Tertiary Education in Australia, which was published in 1964, discussed in some detail the role of education in promoting economic growth and the nature of the tertiary education system in Australia and concluded, inter alia, that -

- (a) *Education should be regarded as an investment which yields direct and significant economic benefits through increasing the skill of the population and through accelerating technical progress...*
- (b) *The Committee agrees with the view ... that higher education should be available to all citizens according to their inclinations and capacity...*
- (c) *Public interest in, and government support for, higher education have greatly increased during the past decade. The climate of opinion favours further expansion, and the Committee supports such expansion on both social and economic grounds...*
- (d) *The Committee considers that there should be greater diversity of tertiary educational institutions than is available today, and that this could be achieved by the development of three distinct categories of major tertiary institutions -*
 - (i) *Universities*
 - (ii) *Institutes of Colleges*
 - (iii) *Boards of Teacher Education.* ³

- 5 While the Government of the day did not implement all of the recommendations contained in the Martin Report, the report did result in a further substantial increase in Commonwealth funding for higher education and also in the development of what was to become the advanced education sector.

- 6 The Martin Committee's views on the role of the humanities and social sciences and the types of courses that might be offered by colleges were also relevant to developments which were to occur in the higher education sector in following years. The Committee commented as follows -

3. *Tertiary Education in Australia, Report of the Committee on the Future of Tertiary Education in Australia to the Australian Universities Commission, Sir Leslie Martin, Chairman, Canberra: Government Printer, 1964, pp.1, 171.*

- (a) *Education in the humanities and the social sciences, as well as in the physical and biological sciences and technologies, plays an important role in the general education of all citizens and in specialised training for management and administration...*
- (b) *Technical colleges can be raised in the public esteem ... by raising the status and increasing the scope of the "humanities" side of technical college work...*
- (c) *In technical colleges where the educational emphasis is on technological disciplines, there is a risk of courses becoming over specialised, the main interest being in "training" rather than in "education". The Committee believes that the introduction of liberal studies in appropriately designed courses within the diploma curriculum will add to the breadth of the student's education, developing in particular his critical, imaginative and creative abilities. The unfolding of such qualities will help to ensure that young technologists are alive to the human and social reactions of their work...*
- (d) *At some appropriate time in the future the Institute (of Colleges in each State) might arrange for more advanced training leading to degrees such as, for example, Bachelor of Technology and Bachelor of Business Studies, which it would confer.⁴*

The Wark Reports

- 7 Following its acceptance of the Martin Committee's recommendations regarding the establishment of a new sector of tertiary education outside the university sector, the Commonwealth Government appointed an advisory committee (the Wark Committee) to assist in the planning of a longer term programme for colleges of advanced education. With the assistance of shared Commonwealth/State funding, colleges of advanced education developed rapidly within guidelines specified by the first (1966) and second (1969) reports of the Wark Committee.
- 8 In its first report the Wark Committee commented on the difference between universities and colleges of advanced education in the following terms -

4. *Tertiary Education in Australia*, pp. 1, 165, 182, 183.

Summing up, we would regard the more important distinctions to be drawn between colleges of advanced education and universities as these. In the colleges there would be:

- (a) Students with somewhat different types of interests*
- (b) A greater concentration upon part-time studies associated with employment, especially in scientific fields*
- (c) A more applied emphasis*
- (d) A more direct and intimate relationship with industry and other relevant organisations*
- (e) Far less attention to post-graduate training and research*
- (f) A primary emphasis on teaching. 5*

9 The Committee went on to say that -

Colleges of advanced education should aim to provide a range of education of a standard of excellence and richness of content at least equal to that of any sector of tertiary education in this country, so that students and staff will be attracted to them on their merits for the special opportunities they offer. We hope that in due course some of the colleges will, in their own specialised fields, achieve international standing. But although the Commonwealth may help to provide the funds to make these attainments possible, only the colleges themselves can generate the spirit of endeavour which is required to achieve the degree of distinction so many sections of the community are expecting of them. 6

10 The Wark Committee's views regarding the role of colleges has been influential in determining the pattern of growth in the advanced education sector. They also provide the basis for the "basic principles of advanced education" which were outlined by the Commission on Advanced Education in its Report for 1977-79. The Commission listed the basic principles as -

- (a) vocationally oriented, providing multi-level courses specifically designed to meet the needs of the community;*
- (b) tertiary in character, but flexible in its approach to entry requirements, teaching methods, modes of study and the design of courses;*

5. *Colleges of Advanced Education 1967-69, First Report of the Commonwealth Advisory Committee on Advanced Education, Canberra: Government Printer, 1966, p.23.*

6. *Colleges of Advanced Education 1967-69, p.24.*

- (c) *applied in emphasis, oriented towards teaching and at an undergraduate rather than a postgraduate level.*⁷

11 The Wark Committee also commented in its first report on the role to be played by colleges in the provision of courses in the humanities, social sciences, and a number of other areas. The following extracts indicate the nature of this role as seen by the Committee -

- (a) *The Government accepted that the colleges would need to be developed from and around the existing tertiary segments of existing colleges, but that their new character should not be confined by the nature of these beginnings. The colleges would not be limited to technical subjects but would offer courses and opportunities for study of the liberal arts, and provide breadth in education for all students attending them.*
- (b) *The wider the range of courses offered, the more likely is a college of advanced education to be successful in providing the broad educational basis and cross-fertilisation of ideas which are among its essential features.*
- (c) *The institutes of technology and the technical colleges as multi-purpose institutions already offer a variety of courses, but in many cases their base is not yet broad enough, being mainly concentrated on the traditional 'technologies'; they would achieve greater breadth and better balance by giving greater emphasis to such fields as art, management, and social sciences... It should not be overlooked that to be part of a broadly based college is as important for students in the fields just mentioned as it is for the students in the traditional technologies.*
- (d) *It was realised that the first colleges of this type would necessarily be developed from the established colleges. Nevertheless it was hoped that the educational base of such colleges would be widened by the introduction or expansion of courses in the liberal arts, visual arts, humanities, social sciences and paramedical studies. Many of the graduates of these colleges will attain important positions in commerce, industry and government, and the aim must be not merely to give professional training but to promote an education which will encourage breadth of interest and outlook.*⁸

7. 1977-1979 Report, Recommendations for 1977, Commission on Advanced Education, Canberra: A.G.P.S., 1976, p. 4.

8. *Colleges of Advanced Education 1967-69*, pp. 1, 19, 51.

- 12 The Wark Committee expanded on a number of these themes in its Second Report and also added the following dimensions -
- (a) the importance of students gaining knowledge about their obligations as members of society;
 - (b) the encouragement of research and consulting work related to industrial problems and of significance to the teaching programme, and
 - (c) the desirability of including teacher education courses within multi-purpose colleges.⁹
- 13 The Wark Committee in its Second Report also commented on the nature of technology and the breadth of studies appropriate to colleges in the following terms -

*The colleges' involvement is with technology which may be defined as the application of knowledge to satisfy human need. The concerns of technology are therefore as wide as those of human need, and embrace the application of knowledge in the social sciences, languages, art and design, as well as in the physical and biological sciences and engineering.*¹⁰

The Jackson Report

- 14 In 1966 the Government of Western Australia established a committee under the chairmanship of Sir Lawrence Jackson to report, inter alia, on future needs of the State in tertiary education, the institutions necessary to meet those needs, and appropriate forms of control and government. The Committee's report, which was published in 1967, included comments on a number of general issues as follows -

- (a) *in the long run all tertiary colleges should come to operate autonomously, with new colleges commencing as branches of existing major institutions, with eventual autonomy clearly in view...*
- (b) *The second characteristic (of effective tertiary institutions) is diversity of curricula and awards. There is a general trend away from small institutions devoted to training in single technologies. Factors of economy of operation, opportunity for students to rub shoulders with students in other fields and broaden their own course options, greater staff recruiting power,*

9. *Second Report 1970-72, Second Report of the Commonwealth Advisory Committee on Advanced Education, Canberra: Government Printer, 1969, pp. 2-5.*

10. *Second Report 1970-72, p.5.*

and wider recognition of qualifications, are telling in favour of large multi-lateral institutions...

(c) a 'Tertiary Education Commission' (should) be established as a continuing body to advise the Government on developments over the whole field of tertiary education, and to encourage cooperation between all the autonomous institutions involved...

(d) ...the State, if it accepts the principle of providing places for all deserving students must plan to augment existing facilities by at least half as much again within ten years.

- 15 The release of the Jackson Report coincided with the increasing availability of Commonwealth funds for higher education and set the scene for further development of the higher education system in Western Australia.

The Wiltshire Report

- 16 In 1968 the Commonwealth Minister for Education and Science announced the setting up of the Committee of Inquiry into Awards in Colleges of Advanced Education (the Wiltshire Committee). The Wiltshire Committee reported in 1969 and included the following comments in its report -

(a) Community acceptance of the colleges will depend on the extent to which their courses serve the purpose for which they are designed and the effectiveness with which successful students can cope with the work situation for which they have been prepared. In this connection, the Committee emphasises that it would be a serious matter if a course serving a useful community need were to be replaced by one requiring a higher level of intellectual effort or a longer period of time simply because of a desire to achieve greater status. Further, it does not accept the argument that the desire to achieve greater status in the eyes of the community justifies the introduction of any particular nomenclature of award, such as a degree, for this reason alone...

(b) While a number of courses which fall within Category A (bachelor's degrees) will be offered by some colleges, in some other colleges perhaps only one or two such courses will be available. In general, the amount of educational work involving courses in Category A undertaken by the colleges will be more than matched by other courses, which will take many different forms and encompass different levels...

- (c) Most submissions advocated a system of awards which would provide for the award of degrees for some of the courses offered in the colleges. There was little support for the argument that degrees should only be offered in universities and we agree that in appropriate circumstances the award of degrees in colleges is justified, provided always that adequate safeguards are maintained with respect to quality. It is interesting to note that the large majority of senior academic staff and administrators in universities with whom the matter was discussed at length supported this view...
- (d) We doubt the validity of the argument that the introduction of degrees as awards would cause the colleges to raise their standards to unduly high levels. Rather, this might occur because of the absence of the opportunity to use degrees, if the colleges were to raise academic standards in an endeavour to demonstrate beyond all possible doubt the academic quality of their courses as compared to others using the degree nomenclature. The emergence of State bodies in some States... and the membership of college councils should ensure that community needs will be kept to the fore both in the provision and nature of courses...
- (e) The needs of the majority of students will most probably be met by a first qualification but for those cases where further studies of a formal nature are needed, two categories (including diplomas and master's degrees) will fill the requirements of the large majority of cases.¹²

Reports of the Australian Commission of Advanced Education

- 17 The Australian Commission on Advanced Education (later known as the Commission on Advanced Education) commented in its third report on the place of degree and higher degree work and research within colleges of advanced education in the following terms -

- (a) The Commission emphasises the need for a balanced development of tertiary education and fully agrees with one of the principal statements of the Wiltshire Report, namely, that the major spread of opportunities and the bulk of the work in colleges of advanced education will be in the "Category B" (undergraduate non-degree) courses.
- (b) The Commission recognises that staff in colleges of advanced education will wish to undertake some measure of research activity, both for intellectual stimulation and as a means of maintaining their familiarity with advances in the disciplines of concern to them.

12. *Academic Awards in Advanced Education*, Report of the Committee of Inquiry into Awards in Colleges of Advanced Education, F.M. Wiltshire, Chairman, Canberra: Government Printer, 1969, pp. 19, 27, 34, 37.

- (c) The development of research can take a number of courses. The Commission believes that any research should be oriented to the applied field although we recognise that it is not always easy to distinguish between the so-called pure and applied research activities. The Commission welcomes the proposed development in some colleges, for example Western Australian Institute of Technology and South Australian Institute of Technology, of a research corporation designed to undertake the investigation of problems on behalf of industry.
- (d) Leaving aside these special developments, there still remains the question of the type and amount of research which should be undertaken in colleges. The Commission believes that research should be applied research; it should relate to the disciplines in which the college offers courses; it should be undertaken within the resources available to the college and not make demands for additional funds for equipment or staff assistance; finally the research should tend to be in areas where the college may be expected to have some specialisation; examples which come to mind are - textile technology, mining, urban studies and water conservation...
- (e) The discussion of research naturally leads to a consideration of the relationship between research and higher degrees in colleges. The Commission, in general, supports the recommendation of the Wiltshire Committee that higher degrees should be awarded following "studies in depth or breadth or both in a significant part of a discipline at a high level and consisting for the main part of formal studies and project work". The degree should normally be that of Master. The Commission is prepared to recognise that in some disciplines, for example, pharmacy, the college may be the only institute in the State which provides study in this discipline and therefore would be prepared to consider in these cases that the higher degree award might be based on some research work.
- (f) The Commission's main concern is that colleges should not attempt to duplicate the expensive postgraduate research activities of the universities as a means of providing research facilities for their staffs and as the basis for awarding higher degrees of the Ph.D. type. We believe that this would be quite an unwarranted demand on scarce resources of both money and manpower, spreading both too thinly with a consequent decline in standards. We believe that the universities have a special responsibility for the development of higher degree work of this kind and that the incursion of colleges of advanced education into this area should be strictly limited. The Commission also believes that if this arrangement is accepted it imposes on universities the responsibility of accepting from colleges those graduates who have the ability and wish to undertake higher degree work.

(g) *To summarise, the Commission has endeavoured to identify seven ways in which research might be carried out in colleges of advanced education within the limitations set out in the preceding paragraphs.*

1. *Research on projects the majority of which would be concerned with practical problems; preferably related to problems within industry and to urgent social and economic questions within the community.*
2. *Research which would encompass training in investigational and research techniques as a part of the courses designed to provide higher degrees by formal study.*
3. *Research by members of staff to acquire qualifications of a postgraduate kind either within or out of the college and likely to lead to a higher degree either of a college or university.*
4. *Individual research either pure or applied, or a combination of both, stemming from individual interest and a strongly felt need for intellectual inquiry.*
5. *Research by individuals or groups supported by the Australian Research Grants Committee or other research fund organisations.*
6. *Research sponsored by agreement between industry and a college directed to specific ends.*
7. *Educational research supported by Australian Commission on Advanced Education funds.¹³*

18 These issues were also commented on by the Commission in its fourth report as follows -

- (a) *One notable feature of the 1976-78 triennial submissions is the desire of many colleges to raise the level of their first qualification and to increase the number of higher-level courses. This desire appears to be stimulated in part by the aspirations of some colleges to achieve additional status. The Commission wishes to see colleges increase the range of their courses but not only in an upward direction. We take the view that the major concern of colleges is to cater for students who seek to obtain a first tertiary qualification and we make our financial recommendations accordingly...*
- (b) *During 1973-75 triennium a significant number of former diploma courses have become degree courses. In some cases this has involved increasing the length of the course from three to four years but in other cases three-year diploma courses have been converted to three-year degree courses. While in many cases there have been substantial and acceptable arguments for these changes, the Commission is*

13. *Third Report on Advanced Education, Report of the Australian Commission on Advanced Education for 1973-1975, Canberra: A.G.P.S., 1972, pp. 4, 112, 114.*

concerned that in some instances the quest for status may be overriding educational needs. The ambitions of individual members of academic staff, students, the educational institutions and professional bodies can contribute to such a quest. College councils are asked especially to examine most carefully any proposals to redesign existing diploma courses, to see that they are not wastefully committing further resources or condoning a situation where the content of a course is determined by the award at the end of it rather than by community needs...

- (c) Learning does not stop at graduation and graduates should be encouraged to engage in further education either to broaden their skills or deepen their understanding in specialist fields. Graduate diplomas and other postgraduate studies are being established as extensions to the undergraduate work of the colleges to provide further qualifications and professional enrichment for those in the workforce. This is seen by the Commission as a valid activity on the part of colleges towards assisting people already in the workforce to upgrade their knowledge and qualifications...
- (d) Colleges are already offering a number of one year courses as graduate or postgraduate diplomas. The Commission considers that colleges of advanced education have a most significant role to play in the provision of courses of this type but expects to be assured that colleges are establishing them to meet priority needs. In general, graduate diplomas (courses which provide education in a field usually different from the major study undertaken at undergraduate level) are seen as more important for colleges than postgraduate diplomas (courses which take study of a field already covered in an undergraduate course to greater depth). In many instances there appear to be advantages in close co-ordination and collaboration among the institutions with respect to these courses, especially in cases of transient demand for particular specialised programmes.
- (e) The Commission notes that some colleges see themselves as supporting graduate schools in a substantial way. We regard this as a matter of concern and we are limiting postgraduate enrolments in some colleges. We accept that where a particular community need has been identified it will be appropriate for some colleges to offer masters degree programmes. The Commission believes that higher degrees should not assume priority and wishes to see colleges exercising considerable caution in entering this area of education. Higher degree courses are acceptable to the Commission only if they are conducted in colleges which have the staff and facilities to cope with them. Not all colleges are so endowed. It should be clearly understood that present funds are intended to provide programmes up to the level of the masters degree only.
- (f) One aspect of college development during the 1973-75 triennium has been the growth of graduate diploma and masters degree programmes. Some masters programmes, especially, include a substantial component of research work culminating in the presentation of a thesis. In

considering support for postgraduate programmes the Commission has a preference for those based predominantly upon course work. Nevertheless, it is prepared to support particular programmes which include a substantial component of applied research especially when the research is relevant to an industrial or vocational field. It is the Commission's view that such programmes should not be taken end-on to an undergraduate course; entry should generally be limited to graduates with work experience as this ensures that those undertaking the postgraduate programme bring some measure of their own vocational experiences to the research study.

- (g) As indicated in the Third Report, the Commission considers that the incursion of colleges into research-type higher degree work should be limited to those areas in which colleges can make a unique contribution. The Commission will not support in colleges the development of research schools of the kind found in universities and considers that the limited activity in this area which may be undertaken by the colleges should be confined to those institutions with the recognised human and physical resources adequate to the task.¹⁴

The Partridge Report

- 19 The Jackson Committee, which reported to the State Government in 1967, recommended, inter alia, the establishment of a State Tertiary Education Commission, one of whose functions would be to advise the State Government on developments in tertiary education. The Western Australian Tertiary Education Commission was established as an advisory body in 1969 and became a statutory body in 1971. The post secondary education system in Western Australia grew rapidly in the ensuing years and, at the same time, significant changes in post secondary education were taking place at the national level. In this context, the Western Australian Tertiary Education Commission came to the conclusion that there should be a new study of the future development of post secondary education in the State and late in 1974 the then Minister for Education appointed a committee, under the chairmanship of Professor P.H. Partridge, to advise on the promotion, development and coordination of post secondary education in the State having regard to its future needs.

14. *Fourth Report on Advanced Education*, Report of the Commission on Advanced Education for 1976-78, Canberra: A.G.P.S., 1975, pp. 18-21.

20 The Partridge Committee reported in January 1976 and among its conclusions were the following -

- (a) *The immediate conclusion that we reach, considering the capacity of the four existing tertiary institutions, is that these figures (projections of additional students) provide no support for the establishment of a new tertiary institution in Western Australia during the next decade...*
- (b) *Quite apart from the official policy, we ourselves are unanimous in believing that the two tertiary sectors can, and should be, distinguished. Although the phrase "different but equal" has been used on many occasions to describe the relation between universities and colleges, there is no doubt that many members of the colleges believe that their prescribed role makes the college institutions of lower status than that of the universities. The understandable ambitions of many college staff members to upgrade their work and to enter the post-graduate and research fields have throughout Australia led to pressures within the colleges to convert more courses to degree standard at the expense of associateship and diploma courses, and to devote an increasing proportion of their effort to work at postgraduate level - a process often called the "upward drift". We believe that there is an essential place in the community in many fields for those with training at the associateship or diploma level. We would hope that this place can retain community recognition without considerations of what is "higher" or "lower" status. Thus we believe that the drive to regrade courses to degree level, with the concomitant disappearance of diplomas and associateships, is a process that should be carefully monitored...*
- (c) *We regard it as vital to the health of tertiary education in Western Australia that the Murdoch University and the Colleges should be encouraged to grow to a viable size within a reasonable time, and, in order to ensure this, there will need to be coordination of their growth with that of The University of Western Australia and The Western Australian Institute of Technology...*
- (d) *The University of W.A., as a matter of deliberate policy, has entered what is virtually a "no growth" phase of its development. Undergraduate numbers will be held close to the present total, although doubtless there will occur redistribution between faculties. Its future growth is likely to be mainly in its strong post-graduate school... however, unless the present policy were to be reversed, it appears that decisions made within the University of W.A. are unlikely to have a major impact on the development of the other institutions...*
- (e) *We regard the growth policy of the W.A. Institute of Technology as the key factor in the development of all the tertiary institutions in the State. As pointed out... the Institute, since its establishment at Bentley has grown rapidly from just*

under 3 000 students in 1967 to about 10 000 in 1975. In our discussions with the Institute, we were informed that Institute policy is for an ultimate target of 15 000 students on the Bentley campus, although no forecast was made about when that target might be reached. However, we were told that the Institute expects to grow more slowly in the future than it has in the past, and that with the inclusion of music studies in its curriculum (approved by the Commission on Advanced Education but temporarily deferred for financial reasons), it has now entered all the major fields of study that seem appropriate to it. We have noted that, in its submission to the Commission on Advanced Education for the 1976-78 triennium, the Institute has planned for a total enrolment of just over 14 000 students by 1978. However, the Commission on Advanced Education in its Fourth Report has recommended provision for the lesser total of 12 300 students by 1978. Even if this growth rate were to be actually achieved and continued, then it is clear that, on the basis of the projections (of number of university and advanced education students), the growth of the Colleges and Murdoch University could be seriously prejudiced.

- (f) It is important that the rate of growth of the Institute, the range of studies in its academic programme, and the level at which they are taught, should be subjects of serious consideration in relation to the future of both the Institute itself and also the other tertiary institutions. We think that it is important for clear projections to be available concerning the total enrolments contemplated within the separate schools at the Institute. It is essential for such information to be available before it becomes possible to speak usefully about future growth at Churchlands or Mount Lawley, or about the need for new institutions, the times at which they may need to be established, and their teaching roles...
- (g) We believe that the Institute can serve the community best as an Institute of Technology, and that developments in the non-technological areas have been excessive. We are aware that there was a demand for these studies at a time when the Colleges were still single-purpose teachers colleges, and that the Institute showed initiative in meeting the demand. But now that the campuses of the proposed W.A. College of Advanced Education have embarked on a programme of diversification, we consider that growth in the non-technological areas at the Institute should be controlled so that future development in these areas would be shared by Murdoch University and the W.A. College of Advanced Education.
- (h) We consider it important that the proposed Post-Secondary Education Commission should initiate a study of the future development of the Institute, especially with reference to the rate of growth in student numbers and enrolment ceilings within the several schools. It seems to us that such a study would be highly relevant to future decisions concerning the growth of Churchlands and Mount Lawley, the development in certain respects of Murdoch University, and the need for new institutions at Cockburn, Rockingham or Whitfords.

- (i) We recommend that the proposed Post-Secondary Education Commission should initiate a study of the future development of the WAIT especially with reference to rate of growth in student numbers and enrolment ceilings within several schools.
- (j) In connection with the slowing down of the Institute's rate of growth, attention should be directed to the quite unusual range of teaching the Institute has acquired. No other similar institution in Australia embraces so wide and diverse an area of academic interests. As we have just remarked, this poses problems concerning the future growth of Murdoch University and the colleges or campuses of the suggested W.A. College of Advanced Education and we suggest that, in order that Murdoch should be able to increase its numbers to several thousand within a few years, it will probably be necessary for the Institute as well as the University of W.A. to restrict enrolments in certain disciplines. But, in addition to this, we have reservations about the desirability of so many highly diverse or heterogeneous academic programmes being brought together within a single institution, especially one which is intended to have a special responsibility among the State's tertiary institutions for training in the applied sciences and technologies. For example, it seems to be an anomaly that the Institute should have a concern with the training of pre-school teachers. Perhaps a more important example, about which we have some misgivings, is the proposal - at present temporarily deferred for financial reasons - to establish a school of music... We should have thought that this school would have little or nothing in common with most of the other schools of the Institute, and that in fact such a school might find itself able to develop more truly, and be subject to fewer constraints, if it were not included within the exceptionally complex and intricate organisation the Institute has become. On the other hand, we feel that the Institute, by dispersing its energies and resources (which will be more constricted as its growth rate falls), may find it more difficult as time goes on to concentrate its resources and energies sufficiently on those areas of teaching in which its main contribution should be made...
- (k) Teaching at the Institute should be at the tertiary level, but care should be taken to maintain a proper balance between studies ranging from associate diploma to post-graduate level. We do not think it desirable that the balance of teaching should be allowed to shift heavily in favour of degree-level and post-graduate courses; for we believe that there are many types of associate diploma-level training that ought to be carried on within an institution with the facilities and the educational resources and diversity that the Institute can provide. One temptation that often besets a college such as the Institute is gradually to raise the level of its teaching; and this tendency sometimes results in the provision of training which is not the most appropriate for the service within industry or commerce or social administration which it is hoped that its graduates will supply.

- (l) *There is need for a careful study of the courses which it is appropriate for the Institute to provide and those which might better be offered by the technical schools and colleges. This Committee has not had the opportunity to study this question in detail; but from evidence that has been tendered to us, we are left with the impression that there exist uncertainty and confusion concerning the roles of the Institute and the technical colleges in some areas of training, and a belief on the part of some persons within the Technical Education Division that their roles and interests have been prejudiced by some of the developments that have occurred at the Institute. We are not in a position to express any judgments on this matter; but we do suggest that the W.A. Post-Secondary Education Commission ought to undertake a thorough study of the respective roles of the Institute and the technical colleges in the area of sub-degree courses. It seems to us, for example, that since the Institute's rate of growth may diminish considerably from this point onwards, it is important to examine criteria for deciding what future developments at the sub-degree level should be provided for in technical schools and colleges, and what future developments should continue to be provided for within the Institute...*
- (m) *We have expressed the view that Murdoch University should be encouraged to grow at reasonable speed until it reaches a viable size, which we might set very roughly at 4 000-5 000 students. Inevitably during this growth period Murdoch University will encounter problems concerning its relations with the two major established institutions, the University of W.A. and the W.A. Institute of Technology. (Parenthetically, we were rather astonished to hear evidence, during our discussions at these two institutions, of concern expressed about the entry of the infant university into some fields that were the province of the major bodies.)... it seems inevitable that almost any new major development that could be proposed for Murdoch University would duplicate an area of study that is already offered by one or other of the older tertiary institutions. Duplication is not necessarily a bad thing in itself - healthy competition may benefit both institutions. However, from the viewpoint of a co-ordinating body, it is necessary to consider such aspects as community need and community demand in relation to costs involved in duplication.*
- (n) *It is no denial of the value of liberal studies to say that, under Australian conditions, universities derive substantial strength from their professional faculties and schools. Furthermore, it is highly probable that many of the additional students who will be seeking university education during the next 10-15 years will want to enter one of the professions. For these reasons, we believe that Murdoch University should strive to broaden its professional base as part of its growth programme. The professional schools that exist already at Murdoch University are those of Veterinary Studies and of Education. The School of Veterinary Studies, of its very nature, will remain rather small and selective in its intake of students for a considerable time. The School of Education could be expanded substantially; but its growth will be governed jointly by the*

demand for trained teachers, and by the present policy of Murdoch University, outlined to us in our visit, that it should be slow. We hope, however, that it will not be unduly restrained, for it is the experience in other universities that schools and faculties of education are important supporters of studies in the liberal arts and pure sciences.

- (o) Considering other professions, evidence submitted to us was unanimous that, for engineering in the broad sense, the facilities already available or immediately planned at the University of W.A. and the W.A. Institute of Technology will be more than adequate to meet the demand for engineering training for a long time to come. Murdoch University is adjacent to the site of the proposed Lakes Hospital, and thus is strategically placed for the establishment of the second medical school in Western Australia when the time comes. However, in consequence of the recent doubling of the capacity of the medical school of the University of W.A., the need for a second medical school in the State will not be felt for some time; indeed, in the opinion of the Karmel Committee, the second school will not be needed before 1990. We were informed that in the meantime Murdoch University is represented on the planning committee of the Lakes Hospital.
- (p) In our discussions with the University of W.A., we were informed that its Law School is already receiving considerably more applications for admission than it wishes to accept, and further that the School does not wish to grow larger than it is at present. Although we made no quantitative study of the subject, it is apparent that there is a steadily increasing demand for legal studies, not only for the formal practice of the law itself but also as a background for business, public administration and politics. We believe that the establishment of a school of law at Murdoch University in the fairly near future would both fulfil a community need and also help Murdoch to extend that professional base that we regard as important to its growth...
- (q) The restricted sites of the Secondary Teachers College and the Claremont Teachers College deny the possibility of anything more than minimal expansion; we believe, therefore, that these institutions will continue to be essentially teacher education colleges with little further diversification into other areas... Churchlands Teachers College and Mount Lawley Teachers College, because of their greater site areas, offer the possibility of future growth and diversification...
- (r) We believe that these activities (extra mural teaching) should be encouraged and further developed... Available resources should be concentrated on the development and further improvement of the programme provided by The Western Australian Institute of Technology, by Murdoch University and by the Technical Extension Service...
- (s) ...there are many social reasons why it is desirable that there should be a greater development of educational opportunity and administrative responsibility in the post-secondary field to regions outside the metropolitan area...

- (t) *We would strongly support this proposal (for the introduction of a post-experience Bachelor of Education degree at the Secondary Teachers College) as one which would build fruitfully on work already accomplished... and we would... take a generally favourable view of the proposition that a post-experience bachelor of education degree for primary teachers should be developed by the teachers colleges...*
- (u) *New attitudes towards post-secondary education, comprising the universities, the colleges of advanced education, and technical and further education, require a State post-secondary commission that will be concerned with coordination and planning in these areas...*
- (v) *We therefore recommend that the W.A. Tertiary Education Commission Act (1970) should be repealed and that there be established by new legislation a body to be known as the Western Australian Post-Secondary Education Commission.*¹⁵

The Williams Report

- 21 In September 1976 the Prime Minister announced the appointment of a Committee of Inquiry into Education and Training. The Committee, which met under the chairmanship of Professor B.R. Williams, reported early in 1979. The following are among the general issues of significance on which the Williams Committee commented -

- (a) *The evolution of the university sector in the last 30 years has been greatly influenced by four precepts:*

- (i) *that every young person who desires a university education and has the intellectual capacity to profit from it should have a fair chance of getting it;*
- (ii) *that universities should restrict their teaching activities to degree and higher degree work;*
- (iii) *that to provide an adequate range of teaching and research at reasonable cost per student a university should have at least 4000 students in the Arts, Sciences and Social Sciences, and at least another 4000 where there are also Faculties of Medicine, Dentistry, Engineering, Agriculture and Veterinary Science;*
- (iv) *that to ensure high quality teaching and research, universities of less than the optimal sizes for their range of activities should receive larger than average grants per student...*

(b) The First Precept.

- (i) *The application of the first precept has been qualified by the operation of manpower planning constraints on the growth of very expensive faculties such as medicine, dentistry and veterinary science...*

15. *Post Secondary Education in Western Australia*, pp. 11, 12, 86, 105, 114, 137-145.

- (ii) *The percentage of students who demonstrate the capacity to profit from university studies depends on the ability and motivation of the students admitted and on the standards of teaching and examining in the universities...*
 - (iii) *The Committee recommends that the Tertiary Education Commission should not propose target numbers of students that encourage universities to enrol a considerable number of students with very little chance of graduating...*
- (c) **The Second Precept.**
- (i) *The second precept, that universities should restrict their teaching to degree and higher degree work and expand their higher degree and research activities, had a very strong effect on the nature of universities...*
 - (ii) *University real expenditure on research has increased very little since 1970 despite the increase in the numbers of staff and research students...*
 - (iii) *In recent years the doctrine that universities should not provide for undergraduate diploma students was called in question during discussions of possible mergers between universities and nearby teachers colleges. In its Sixth Report the Universities Commission stated that it might be desirable for a university such as Deakin to offer sub-graduate diploma courses and that this might also be appropriate if there were a merging of the university and college of advanced education in cities such as Townsville or Armidale...*
- (d) **The Third Precept.**
- (i) *The Martin Committee expressed the view that under Australian conditions the disadvantages of smallness may be significant for universities of less than about 4000 students and those of largeness for universities of more than about 10 000 students. It pointed out that the variety of degree courses will affect the minimum effective size, and added that it would be neither wise nor necessary for new universities to cover the whole range of courses. In its Fifth Report the Universities Commission treated the relations between effective size and range of courses in a more explicit financial manner, and based grants per student on the type of subjects taught and on calculations of minimum effective size in groups of subjects or faculties... The formula used by the former Universities Commission implied that the minimum economic size of a university providing degrees in the humanities, sciences and social sciences is about 4000 students. There are signs that the Universities Council of the Tertiary Education Commission is prepared to re-examine that calculation...*

- (ii) *The third precept that a university needs at least 4000 students to provide teaching and research at reasonable cost, is based on assumptions about the number of departments in Faculties of Arts, Science and Social Science, and the number of staff in each department to provide for specialisation, that have never been openly discussed. There are signs of a re-appraisal in the particular case of Griffith University... In the next 20 years it is likely that small universities will only be able to operate economically if they offer a smaller range of subjects than was envisaged during the planning stage and approved by the Universities Commission for financing. In other countries some very good 'liberal arts' universities operate economically with less than 3000 students.*

The Committee recommends that the Universities Council reconsider the assumptions about the range of activities and the size on which the financing formula was based...

(e) The Fourth Precept.

- (i) *Differences in the size of universities and the range of studies influence grants per student. The three main factors that determine operating grant per student are size, the balance between first degree and higher degree students, and the distribution of students between Faculties... The Universities Commission based its grants (for 1977) on an estimate of a fixed overhead component, and on the judgment that for each Faculty a critical number of staff is required to support a sufficient range of courses. For this reason universities that do not have a sufficient number of students to produce a normal student/staff ratio with this critical minimum of staff receive more than normal grants. How large a university needs to be to receive normal grants per student load depends on the approved range of Faculties. The smaller the range of Faculties and the smaller the range of subjects within Faculties the smaller the critical size of the university. Judging from the movement of grants per student at Macquarie and La Trobe Universities, the Commission's critical size for a university providing what was regarded as an adequate range of courses in Arts, Social Science and Science was in the 4500 to 5000 range. The critical size would be less, and could be substantially less, if a different view were taken of the minimum range of course offerings that would justify the creation (or continued existence) of a university. Analysis of grants per student in universities of different sizes indicates that the Universities Commission judged that the critical size for a university with a full range of Faculties was at least 7500...*
- (ii) *Some problems arising from the precept that universities of less than optimal sizes for their range of activities should receive larger than average grants per student are a consequence of retarded growth. The high cost universities*

were meant to be of two kinds - the new universities such as Griffith, Murdoch and possibly Deakin that were in the process of growing to an economic size, and universities such as Tasmania and James Cook that would remain high cost universities because of their locations. The revision of the precept that universities should not provide sub-degree courses and that there are significant disadvantages of smallness for universities of less than 4000 students, would affect the judgment on grants to universities of less than 4000 students. Griffith University could become effective and economical with less than 4000 FTE students. The development of sub-degree courses at James Cook University could reduce its 'excess costs' somewhat and add to educational opportunity in North Queensland. The rationalisation of the roles of the University of Tasmania and the Tasmanian College of Advanced Education will have the same effect. The prospect that Murdoch University could be raised to an effective and economical size by the revision of the third precept is not good. The Partridge Committee judged that the Western Australian Institute of Technology had developed too far in the non-technological areas and recommended that its growth in these areas should be controlled so that future developments would be shared by Murdoch University and the teachers colleges. Even with the second projection of student numbers, growth to an economic size now seems unlikely, and the most promising line of development seems to be the integration of the activities of the two universities in Western Australia (5.87).

The Committee recommends that the Tertiary Education Commission discuss with the University of Western Australia and Murdoch University and the Western Australian Post-Secondary Education Commission an integration of the activities of the two universities.

- (f) The number of FTE students at Murdoch University was 1 473 in 1977. The economic size of Murdoch, given the present formula for financial grants to universities providing studies in Arts, Science, Education and Veterinary Science, is approximately 4 500 FTE students. If all the projected additional university students in Western Australia enrolled at Murdoch University the increase would be little above 450 by 1986 for the first projection (Table 3.4) and 1 100 for the second projection (Table 3.5). The subsequent growth would be insignificant for the first projection, and another 500 by 1991 under the second projection unless there were a significant increase in the education age groups or participation rates in Western Australia. The number of Murdoch students in science subjects other than biology is very low and there seems little prospect of it becoming a balanced university in the next ten to 20 years. The University of Western Australia is short of land for its Faculty of Agriculture and it is therefore sensible to ask whether the education philosophies and staff of the two universities are sufficiently compatible to make possible an effective association of the two universities. If so, agriculture and horticulture could be developed on the Murdoch site where there are already good facilities for veterinary studies.

- (g) There is a considerable emphasis on the use of contracting procedures across sectors to make better use of resources and to extend educational opportunities... The Committee's proposals on contracting are based on current methods of financing the three post-secondary sectors, and on the productiveness of co-operation based on specialisation... These proposals for contracting... are designed to ensure that the division of post-secondary education into sectors does not hinder the provision of post-secondary education in regions where the number of students is not large enough to justify specialised institutions...
- (h) The Committee recommends that post-secondary education authorities in each State encourage universities, colleges of advanced education and TAFE authorities to extend their provisions for credit transfers and to make their decisions on particular cases more predictable. For this purpose the Committee recommends that the authorities appoint working parties to appraise existing courses and examination requirements and to suggest reasonable procedures for establishing what credits should be granted...
- (i) The Committee recommends:-
- (i) That State authorities seek to extend the range of educational opportunities by the planned integration of external studies programmes with other modes of study undertaken in educational institutions in the three sectors.
 - (ii) That State authorities in co-operation with the institutions concerned and with the Australian Council for Academic Awards in Advanced Education actively promote the granting of awards on the basis of credits earned in more than one institution.
 - (iii) That where provision does not already exist in State legislation consideration be given to a provision for the granting of awards by State authorities on the basis of credits earned in more than one institution.
- (j) The Committee recommends that action to prevent an unnecessary growth in the role of formal credentials should not be allowed to obscure the value to individuals and society of an increase in a range of non-vocational educational opportunities for citizens of all ages, and a growth of variety in the provision of these opportunities. 16